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APPLETONS'
ANNUAL CYCLOPÆDIA

AND
REGISTER OF IMPORTANT EVENTS

OF THE YEAR

1881.

EMBRACING POLITICAL, CIVIL, MILITARY, AND SOCIAL AFFAIRS; PUBLIC DOCUMENTS; BIOGRAPHY, STATISTICS, COMMERCE, FINANCE, LITERATURE, SCIENCE, AGRICULTURE, AND MECHANICAL INDUSTRY.

NEW SERIES, VOL. VI.

WHOLE SERIES, VOL. XXI.

NEW YORK:
D. APPLETON AND COMPANY,
1, 3, AND 5 BOND STREET.
1882.

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PREFACE.

THE volume of this work for 1881 is the sixth of the new series and the twenty-first of the whole series. It has grown in size to meet the increased activity in human affairs, and to present the interesting public questions and scientific developments which have arisen, and the discussions of their principles.

A special article is devoted to the affairs of each country and to each State of the United States, which contains a sketch of its history during the year, the administration of its government, and its legislation; full official information on its area, population, education, military force, commerce, industry, finances, and the public questions agitated and reforms effected. No efforts are spared to secure the fullest information from all parts of the world, and it is considered that in its several departments the work may be safely consulted as the completest and most reliable book of reference. At the same time its record of scientific developments and progress will be found most valuable and unsurpassed.

In this volume the sad history of the fatal wounding and slow decline of the President are given in the article on "Garfield," a summary of the points in the trial of the murderer is recounted, the important medico-legal question of "Insanity as a Defense" is discussed, and the constitutional question of "Presidential Inability" is presented, with the views of public men.

The change of administration, the "legislation of Congress," with the debates, the "special sessions" and proceedings of the United States Senate, and the records of each of the States, and especially the political history of New York, are given fully. The movements and statistics of "Commerce and Finance in the United States," and the "Finances" of the Government of the latter, by ex-Assistant Secretary Upton; the "Exposition of Cotton Products at Atlanta," by Professor William M. Browne; the report of the "Mississippi River Improvements"; "the Panama Canal question"; the important diplomatic correspondence of "Peru, Chili, and the United States"; the question of "Bi-metallic Currency" with the results of the conference at Paris; the recent progress of "American Constitutional Law"; the validity of the "Naturalization Papers of the United States"—are subjects of permanent and historical importance.

The stirring events which have occurred in foreign countries are scarcely of less interest. The agrarian question in Ireland as well as in the other coun-

tries of Europe; the wars in South America, Afghanistan, the Transvaal, and Turkistan; the revolutionary upheaval in Russia and the terrible murder of the Czar; the persecutions of the Jews in Germany and Russia; the developments of the still unsolved Eastern question; the social reforms in Germany; the rapid political changes in republican France; the liberal movements in Italy and Spain—are a few of the subjects of which an account is given, together with all the latest statistical information, under the names of the different countries, or dealt with in special articles, such as “Jews, Persecutions of”; “Islam, the Future of”; “Brahmo Somaj”; “Land Tenure in Europe”; “Opium-Trade of India and China”; “Russian Government, its Features.”

Religious and denominational information is given under the names of the denominations, and a special article on the “New Testament Revision.”

There are biographical articles on numerous distinguished persons who have died during the year.

The progress of science, particularly of its useful applications, and the achievements of inventive genius, are described with comprehensive completeness. Of the long list of special articles and new subjects may be mentioned as examples, the progress of “Medical Science and Practice,” the article on “Eye-sight Deterioration,” the one on the progress of “Mechanical Engineering,” the recent developments in “Physiology”; the account of the “Exhibition of Electrical Inventions” at Paris, the article discussing “Technical Education,” the account of the improvement in “Photography,” the articles on “Glucose”; “Germs, Vaccination with Disease”; “Fertilizers” by Professor W. O. Atwater; “Chlorophyl”; “Oysters, Deterioration of”; “Nutritive Elements of Food”; and the merits and demerits of “Silo, or Ensilage,” by L. B. Arnold.

The subject of the United States census is treated in the volume with great fullness in its various departments, and the population is given of every county in each State, and also of all the principal cities, and compared with the statistics of the former census of 1870. The returns of the recent census in Great Britain, in France, in Italy, Switzerland, and other European countries, are presented to the latest dates practicable. Large and very finely colored maps accompany the United States census, and illustrate the comparative density of the population in 1830 and 1880; the center of population at the end of each decade since 1800; and also the comparative density and the location of the foreign and the colored population.

Fine steel portraits of President Arthur, ex-Secretary Blaine, the lately deceased poet Longfellow, and the distinguished French citizen Gambetta, embellish the volume, together with maps and cuts in various articles.

THE ANNUAL CYCLOPÆDIA.

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A

ADVENTISTS. The several denominations of Adventists in the United States trace their origin to the preaching of William Miller, who predicted about 1840, as the result of his studies of the prophecies of Scripture and the calculations deduced therefrom, that the second coming of Christ should be looked for in 1843 or 1844. They agree in the expression of the belief that the visible personal second coming of Christ is near at hand, but are divided, on other points of doctrine, into four branches, the most numerous of which are the Second Advent Christians, numbering about fifty thousand members. The distinctive features of their belief are "the doctrine of the immediate personal coming and reign of Christ on the earth; holiness of heart; the unconscious state of the dead; their literal resurrection; and the final destruction of the wicked." The Evangelical Adventists, numbering about nine thousand members, differ from these, in holding to the conscious state of the dead, and the eternal conscious suffering of the wicked. The Seventh-Day Adventists, who have about fifteen thousand five hundred members, hold that the sanctuary to be cleansed is not the earth, but the heavenly sanctuary; that Christ will come as soon as he completes his "investigative judgment" to ascertain who of the dead are worthy of the first resurrection, and who of the living of translation. Satan is then to reign in the earth a thousand years, after which the earth will be redeemed and fitted to be the dwelling-place of the saints. The Life and Advent Union holds to the life in Christ only, and the non-resurrection of the wicked dead.

SECOND ADVENT CHRISTIAN ASSOCIATION. The Second Advent Christians have, until the last year, been represented by two distinct organizations, one for the East and one for the West. Representatives of both branches of the denomination were invited by the Eastern Association to meet at Worcester, Massachusetts, in a National Convention, "for the purpose of considering a proper system of organiz-

ing churches and a declaration of principles." The convention met April 6th, and was attended by ninety-three delegates from the New England States, New York, Pennsylvania, and Canada. A declaration of principles respecting creed and church organization and a form of "advisory covenant" were adopted. The first four articles of the declaration state the commonly received "orthodox" doctrine of the Scriptures and the Trinity. The fifth article declares that Christ died to save men from eternal death, the penalty of violated law; that the redemption he provided is twofold — "redemption of all men from the penalty of Adam's sin, by the resurrection of the dead; second, the redemption of believers from personal sin and its consequences." The sixth, seventh, and eighth articles treat of repentance, of baptism (concerning which it is said that pardoned believers should be "buried with Christ in baptism," to show their belief in the resurrection of Christ and the dead), of the Lord's Supper, and the personal return of Christ. The tenth article expresses belief in the everlasting destruction of the finally impenitent, and the final extinction of all evil. The eleventh article declares that the coming of Christ is near at hand. The twelfth and thirteenth articles express the belief that the earth will be made over to be the future abode of the saints, and that all church action should point to the personal coming of Christ. In the "advisory covenant" the Bible is accepted as the only rule of faith, and liberty of thought is permitted, with a reservation, for the protection of the privilege of a refusal of sanction to the "persistent urging of doctrinal themes" not "essential to salvation." The articles on the subject of church organization approve the congregational system.

A conference of Second Advent Christians representing six States, met at Foreston, Illinois, in June, and adopted resolutions on church organization; a declaration of principles in harmony with that set forth at Wor-

cester; and a basis of union between Eastern and Western Adventists.

The twenty-second annual meeting of the Second Advent Christian Association—the first regular meeting of the united organization—was held at Chelsea, Massachusetts, August 16th. The following conferences were represented: Maine, New Hampshire, Massachusetts, Vermont, Connecticut, Rhode Island, Hoosick Valley, New York, Ohio, Michigan, Philadelphia, Illinois, Wisconsin, Northern Central Missouri and Southern Central Iowa, Southwestern Missouri and Northwestern Iowa, Minnesota, Kansas, California, Alabama, and South Carolina. E. A. Stockman presided. The most important business transacted was the adoption of the constitution for the united organization. This statute declares that the society shall be known as the

“Second Advent Christian Association of America,” and that its object shall be “the promulgation of Bible truth, especially the fulfillment of prophecy relative to the immediate second personal advent of our Lord, and a preparation for the event, through the Advent Christian Publication Society and all other laudable means.”

The association was divided into two districts, the Eastern and the Western districts, having the western boundary of the State of New York and Pennsylvania as the line of division between them; the annual meetings to be held alternately in either section. Each conference in the United States and Canada is entitled to one delegate as a member of the association, with one additional delegate for every three hundred members of churches; and single churches, where there are no conferences, may send delegates. Provision is made for the representation of distant conferences by proxy; and a committee of six delegates was constituted in either section to represent all such part of that section as may not be otherwise represented, when the annual meeting is held in the other section.

The Advent Christian Publication Society returned a capital of \$14,438, and reported that its receipts for the year had been \$20,480. It had handled during the year \$4,339 worth of books and tracts, and had published 4,333,072 pages. The sales amounted to \$4,803, and gifts had been made through the tract fund to the amount of \$1,820.

AFGHANISTAN. A British garrison occupied Candahar at the beginning of the year. In the Queen's speech at the opening of Parliament in January, the incoming British Cabinet announced its intention of withdrawing the troops from the country. Lord Beaconsfield, in criticising the sudden reversal of his policy, protested against the impairment of the imperial prestige and renown in the Orient by the course of the Government in “doing everything they could to inform every being in Central Asia, and in every other part of Asia, that they meant to cut and run from the scene of a splendid conquest,” and declared that the

abandonment of the military domination of the country had produced a state of anarchy, and that the final retirement from Candahar would give full license to military adventurers ambitious of empire.

The nature of the negotiations between Shere Ali and the Russian authorities were revealed in a secret correspondence which was captured at Cabool. The menacing preparations of Lord Lytton for the invasion of Afghanistan had led Shere Ali to appeal to Russia for aid, and an offensive and defensive alliance was in negotiation while hostilities between England and Russia were imminent; but after the signature of the Treaty of Berlin, the Russian envoy at Cabool, Colonel Stoletoff, only sought by equivocations, and by counseling the Ameer to remain at peace, to extricate his government from the position to which it was committed. The history of the Afghan war shows the impossibility of either power occupying the Afghan country as a military base. The indomitable mountain tribes are only bound together by a loose feudal league. The Ameer is little more than a titular sovereign, and there is no habitual and disciplined submission to a central organized government. Their fierce spirit of independence will not brook the thought of foreign ascendancy. An ameer would lose the allegiance of his subjects who should succumb to any European influence. The threatened advance of the English was all that made dealings with Russia possible. The adherence given to Ayoob Khan by wide sections of the country was mainly owing to the fact that Abdurrahman had been the choice of the British conquerors.

The Liberal party in England, adhering to the conviction that a “strong, friendly, and independent Afghanistan” is the best bulwark against the Russian advance toward India, recorded a solid vote in the House of Commons against a motion to retain Candahar, prompted by the intelligence of the capture of Geok Tepe by the Russians. The evacuation of Candahar and Southern Afghanistan was still delayed, in the hope that the Ameer would gather the political strength to occupy the country and cope with his adversary and England's foe, Ayoob Khan. The son of Shere Ali had seemingly better chances of uniting Afghanistan under his rule than Abdurrahman. He was the candidate of the numerous Duranis, with a considerable following among the Ghilzais, and with partisans in all the valleys of Afghanistan. His rule was established in Herat, and his pretensions acknowledged throughout Western and Southern Afghanistan. He was raising treasure and recruiting his army from the bravest elements of all parts of Afghanistan, in strenuous preparation for a struggle with Abdurrahman. The feudatory sirdars who embraced his cause with their bold and turbulent followers, however, possessed their share of the proverbial jealous, rebellious, and faithless spirit of the Af-

ghans. His yoke was hard on the country around Herat. Treasure could only be raised by harsh exactions, and Ayoob's own imperious, jealous, and vindictive character was calculated to raise up many enemies. In March, an insurrection of the neighboring tribes, joined by mutineers from the army, Candahari and Herati soldiery, nearly put an end to his ambitious plans. His position in the country at large seemed, nevertheless, to be growing stronger. The prolonged occupation of Candahar by the British visibly injured the prospects of Abdurrahman by ranging the patriotic and religious sentiment of the country on Ayoob's side. The Ameer's rule extended only over Caboolistan, Balkh, and Badakshan, and was not exercised farther west than Ghazni.

After waiting until April for Abdurrahman to become strong enough to hold Candahar, the British authorities sent word to him to bring a force to succeed them. A deputation from Ayoob Khan asking that the city be resigned to him and his pretensions recognized, on the ground that the people were attached to his cause, was dismissed with a refusal. The Ameer dispatched a body of troops, who slowly made their way from Cabool through the unfriendly Durani country. On the 21st, after furnishing the Afghan troops with some artillery and small-arms, the last detachment of British soldiers marched out of Candahar, leaving the deputed governor of Abdurrahman in command.

The British did not, however, withdraw to their former boundary, but only to the valley of Pishin, where they remained, guarding the Khojak pass and garrisoning the city of Quetta, quietly looking on during the ensuing struggle between the two claimants for the Afghan throne. The Indian official world insisted upon holding on to this last, poor trophy of the conquest; and the army clique and Russophobists never ceased to cry for a return to the "forward" policy, for interference between the combatants, and the establishment of a British protectorate in Afghanistan.

After the evacuation of Candahar the Ameer increased his fighting strength, and posted troops on the Helmand to defend his acquisition. Three of Ayoob's cousins and generals advanced with a small force, hoping to incite the Durani chiefs to rise, but with little success. A skirmish near Girishk opened hostilities on the 30th of June. On the 11th another engagement took place, resulting in the dispersion of Ayoob's force. In July Ayoob advanced from Herat to the Helmand River with all his forces. Several days were gained by him in pretended negotiations for peace. Gholam Hyder, the commander of the Ameer's force on the Helmand, finally crossed the river to attack Ayoob Khan, but only to find that the wily prince had himself forded the Helmand and slipped in between him and Candahar. Gholam Hyder recrossed the river at Girishk, and caught up with Ayoob at Karez-i-Atta, six

miles nearer Candahar, encamped in a strong position on ascending ground. Gholam Hyder attacked him vigorously, and gained some advantage at first; but the desertion of a regiment of Ghilzais and his own bad generalship lost him the day. The Cabooli troops took to flight, and many of them came in and surrendered to Ayoob. The battle, which was fought July 27th, lasted only an hour; eighteen guns and a considerable treasure fell into the hands of Ayoob's general. The Ameer's Governor of Candahar and his staff fled, and Ayoob's forces quietly took possession of the city on the 30th. Gholam Hyder Khan retreated with the remnant of his army to Kelat-i-Ghilzai. Here, finding re-enforcements from Cabool, he made a stand. The Ameer's position improved from week to week. Dissensions broke out in Ayoob Khan's army, and many of the Cabooli soldiers who had joined him after the battle at Karez-i-Atta redeserted to Gholam Hyder. The Ameer issued a proclamation to the people of Northern Afghanistan, announcing that he would take the field in person. Mahomed Jan, his former general-in-chief, whom he had long feared and mistrusted, he cast into prison with other suspected individuals. Both he and Ayoob Khan had been hampered in their movements by signs of treachery and disaffection in their capitals and among their troops.

The Duranis did not flock to Ayoob Khan's standard, as he had hoped, upon his appearance in Southern Afghanistan. Before the capture of Candahar had made him master of the country, but few partisans joined his ranks. Here, as at Herat, his rule was felt to be oppressive. His financial straits and military necessities compelled him to make requisitions for arms and supplies and to exact transport service, and his extortions of treasure acted like a blight on commercial traffic. The murder of a popular chief, and other events which excited tribal hatred and revenge, had estranged the Herati more than all his exactions, and were among the main causes of his future disasters. Race feeling, which is one of the deepest passions of the Afghan breast, was aroused in his favor among the Southern Afghans by the appeals made by Abdurrahman to the race pride of the Ghilzai nation in his energetic preparations for a final struggle with the Ghilzai leader of a Durani horde who disputed his throne. The Duranis of the south, who had held back apathetically at Ayoob Khan's first coming, passionately filled with the traditional jealousy of the Ghilzai race, now rallied vigorously around the banner of their national chief. Abdurrahman during his struggle with Ayoob Khan was freely provided with British silver. The liberal use of his abundant cash gave him a great advantage over Ayoob. Instead of drying up the fountains of commerce, and spreading distress and poverty in his path, his approach brought unexampled prosperity and comfort to every community which he visited.

Abdurrahman reached Kelat-i-Ghilzai on the

1st of August. Definite proposals for peace from Ayooob Khan were rejected, and the Ameer advanced to join battle with his rival on the road to Candahar. For many days the armies lay encamped opposite each other; and Abdurrahman offered battle daily, but could not draw out the enemy. The Ameer was then obliged to change his camp to a position nine miles to the west, in order to be near flour-mills. Ayooob took a position opposite in the village of Chilzina. Here the decisive battle was finally fought on the 22d of September, and was lost through the treachery and desertion of the Caboolis, who had gone over to Ayooob after the defeat of Gholam Hyder, and of the disaffected Herati soldiery. The encounter with Abdurrahman, for which Ayooob Khan had been so long preparing, would probably have resulted otherwise in the overthrow of the Ameer. In the battle of Chilzina Ayooob Khan occupied a position of superior strength, behind the ramparts, ditch, and buildings of the old city of Candahar, protected on the right by a rocky ridge. Ayooob's army was also more numerous. After three hours or so of fighting, the Cabooli and Herati regiments, which Ayooob Khan probably mistrusted and therefore kept in the rear, commenced to fire upon the Ghazi and Candahari men who formed the pretender's battle-front. This treacherous act broke the line, and soon the army was in full rout. Ayooob Khan and his confederate chiefs escaped to Herat, leaving his artillery, consisting of twenty-two guns, in the hands of the enemy.

Abdurrahman did not follow up his victory, but returned to Cabool after sacking Candahar, which opened its gates to him without resistance, and pillaging the surrounding country, in revenge for their adherence to Ayooob's cause. Abdurrahman leisurely made his preparations to advance on Herat. Meanwhile Abdul Kudas Khan had set out with a small force from Cabool and was making his way toward Herat through Northern Afghanistan and Turkestan. He was joined by a large force of auxiliary volunteers from the local tribesmen, who were hostile to Ayooob. This formidable force menaced Herat from behind at the same time that Ayooob was obliged to draw his forces from the city to meet the army of Abdurrahman. After three engagements, the last one fought at Shaffan, thirty miles east of Herat, October 2, in all of which Abdul Kudas and his local allies were successful, Herat surrendered without further resistance on the 4th. Ayooob Khan, after the capture of his stronghold and capital, and his sole military base, prudently made his escape to Persia.

AFRICA. An important change in the map of Africa occurred during 1881. The Transvaal Republic, which had been annexed by the British in 1877, regained its independence and assumed the name of the South African Republic. A strong agitation against British rule was kept up in the annexed district, which finally resulted in a declaration of war by the Boers.

After several severe repulses of the British, public opinion in England became outspoken against the further continuance of the war, and negotiations were entered into by the Liberal Government with the Boers, which resulted in the restoration of virtual independence. (See CAPE COLONY.)

At the biennial election held in Liberia on May 3d, Anthony W. Gardner was elected President, and Rev. A. F. Russell, Vice-President of the republic, the successful candidates receiving a majority in every county. This will be Mr. Gardner's third term. The contest is described as independent of party lines. The successful candidates have pledged themselves to the education of the masses, the incorporation of the native tribes into the body-politic, in favor of temperance, the honest settlement of foreign indebtedness, and the frugal administration of the Government.

A small native war arose for the British on the West Coast of Africa. A native, who styled himself King of the Denkera tribe, had taken refuge within the limits of the British protectorate of the Fantee and other tribes; but King Koffee, of Ashantee, claimed that the Denkeras were subjects of the Ashantees, and demanded that he be given up. As the British refused to comply with this request, King Koffee declared war in February. The affair was settled in May, after a short and decisive campaign, by the payment of a penalty of 2,000 ounces of gold, and an apology from King Koffee to Queen Victoria. At the final interview of the Ashantee ambassadors with Sir Samuel Rowe, the Governor, the latter instructed them to inform the King that the British would not consent to the conclusion of any treaty with him so long as he permitted the practice of human sacrifice to continue.

The German traveler, Nachtigal, has made a computation of the surface and population of the countries and districts of the Continent of Africa, as follows in kilometres (2½ kilometres = 1 square mile):

COUNTRY.	Area.	Population.
Morocco.....	812,382	7,829,000
Algeria.....	667,665	2,867,626
Tunis.....	111,348	2,100,000
Tripoli.....	1,033,349	1,010,000
Desert of Sahara.....	6,180,426	2,850,000
Egypt.....	2,986,915	17,420,000
Soodan, Central.....	1,714,983	81,770,000
Soodan, Western, and Upper Guinea.....	1,998,046	43,600,000
Harar.....	1,897,088	15,500,000
Central Africa north of the equator.....	2,254,980	27,000,000
Central Africa south of the equator.....	1,717,900	20,000,000
Portuguese possessions, eastern.....	111,497	1,000,000
Portuguese possessions, western.....	78,470	9,000,000
Orange Free State.....	968,418	75,000
British South Africa.....	968,418	1,966,000
Islands.....	626,054	3,982,400
Total.....	29,283,890	205,166,976

AKKAS, a dwarf race dwelling in the valley of the White Nile, in about the third degree of north latitude. Reports of dwarf peoples in equatorial Africa have been made by travelers in all ages. The pygmies of the an-

cients were located by tradition in the distant parts of Upper Ethiopia. The Dokkos, another tribe of people of low stature, living in the southern part of Abyssinia, may be related to the Akkas. These are described by Schweinfurth as a race which never attain a greater height than five feet. Their lower face protrudes to a remarkable degree. Their hands and feet are small. They are very active in their habits, and use the bow and the lance with great skill in hunting the elephant. The country of the Akkas lies south of the Welle River, beyond Monbuttuland and the country of the Niam-Niams (see "Geographical Progress and Discovery"). From recent accounts it appears that the stature of the Akkas has been somewhat understated, and that their average height is greater than that of the Hottentots. They are not warlike, and are in danger of extinction from the aggressions of their neighbors. Two Akka children who were brought to Europe by Miani have displayed a fair degree of intelligence.

ALABAMA. Some important measures were passed at the session of the Legislature held at the beginning of the year. A colored normal school was established at Tuskegee. An act was passed providing for the incorporation of banks of discount and deposit. They are authorized to carry on the business of banking, by discounting bills and notes, receiving and paying out deposits, buying and selling gold and silver bullion, foreign coins and foreign and domestic bills of exchange and commercial securities, bonds and stocks, by lending money upon bonds, stocks, and personal security, and upon unincumbered real property, and by exercising such incidental powers, not in conflict with the laws of the State or of the United States, as are necessary to carry on its business. The capital stock may be any sum not less than fifty thousand or more than five hundred thousand dollars.

Any one who carries about his person a bowie-knife, or any other knife or instrument of like kind or description, or a pistol, or firearms of any other kind or description, or any air-gun, must be fined on conviction not less than fifty nor more than five hundred dollars, and may also be imprisoned in the county jail, or sentenced to hard labor for the county for not more than six months: provided, that evidence that the defendant has good reason to apprehend an attack may be admitted in the mitigation of the punishment or in justification of the offense.

The sum of one hundred thousand dollars was appropriated for the construction of an additional building for the accommodation of the insane at Tuscaloosa.

The rate of the State tax was fixed at six and one half tenths of one per centum.

It was declared by the Legislature that "the main track of every railroad in this State is a public highway, over which all persons have equal rights of transportation for passengers

and freights, on the payment of just compensation to the owner of the railroad for such transportation; and any person or corporation engaged in the business of transporting passengers or freights over any railroad in this State, who shall exact and receive for any such transportation more than just compensation for the services rendered, or demands more than the rates specified in any bill of lading issued by such person or corporation, or who for his or its advantage or for the advantage of any connecting line, or of any person or locality, shall make any unjust discrimination in transportation against any individual, locality, or corporation, shall be guilty of extortion; and in every case it shall be for the jury to determine, from all the evidence, whether more than just compensation was exacted and received, or whether any such discrimination in transportation which may be established by the evidence against the individual, locality, or corporation, as the case may be, was made for the benefit or advantage of the person or corporation operating such railroad, or of any person or locality: provided, that nothing in this act shall be construed to prevent contracts for special rates for the purpose of developing any industrial enterprise, or to prevent the execution of any such contract now existing."

In all suits for extortion, the plaintiff may recover twice the amount of damages sustained, and also a reasonable fee for his counsel. The party proved guilty of the extortion may be fined not less than ten or more than five hundred dollars. It was also provided that a board of railroad commissioners should be established, whose duty it should be to consider and carefully revise all tariffs of charges for transportation submitted to the commission by any person or corporation owning or operating a railroad in this State; and if, in the judgment of the commission, any such charge is more than just compensation for the service for which it is proposed to be made, or if any such charges amount to unjust discrimination against any person, locality, or corporation, the commission shall notify the party submitting the same of the changes necessary to reduce the rate of charges to just compensation, and to avoid unjust discrimination; when such changes are made by the party submitting the tariff, or when none are deemed proper and expedient, the members of the commission shall append a certificate of its approval to such tariff of charges.

It was further made the duty of the commissioners to hear all complaints made by any person against any such tariff of rates so approved, on the ground that the same, in any respect, is for more than just compensation, or that such charges, or any of them, amount to, or operate so as to effect unjust discrimination; such complaint must be in writing, and specify the items in the tariff against which complaint is made; and if it appears to the commission that there may be justice in the complaint, or

that the matter ought to be investigated, the commission shall forthwith furnish to the person or corporation operating the railroad a copy of the complaint, together with notice that, at a time and place stated in the notice, the tariff as to said items will be revised by the commission; and at such time and place it shall be the duty of the commission to hear the parties to the controversy or by counsel, and such evidence as may be offered, oral or in writing, and may examine witnesses on oath, conforming to the mode of proceedings, as nearly as may be convenient, required of arbitrators, giving such time and latitude to each side, and regulating the opening and conclusion of any argument, as the commission may consider best adapted to arrive at the truth; and when the hearing is concluded, the commission shall give notice of any changes deemed proper by them to be made, to the person or corporation operating the railroad.

The serious nature of the litigation against railroads, under a complaint of extortion, is such that those best informed on the subject admit that, if the roads were subject to it unrestrained, it would effectually destroy the value of their property. The act, therefore, seeks to provide a proper measure of protection to the railroads by authorizing them to submit their tariffs to the commission, and when such tariffs have been conformed to what, in the judgment of the commission, is the measure of just compensation, without unjust discrimination, the commission shall approve them. This approval by the commission does not make the tariff thus approved absolutely binding, either on the public or the railroads; but it so far protects the railroads as to relieve them while acting under such approved tariff from all liability except for actual damage, and gives them the right, if successful in a suit for extortion in respect to such charges, to recover a lawyer's fee from the plaintiff, and the approval of the commission is *prima facie* evidence in behalf of the railroad that the tariff is not extortionate.

The object and effect of these provisions are to leave it to a jury to determine in the last resort what is just between the people and the railroads. The railroads, in so far as they are private property, are entitled to the same measure of protection precisely as other property; and, in so far as they are public highways, the right of the public to use them is equally sacred. These respective rights, of the success of the railroad on the one hand, and of the public on the other, meet at just compensation, without unjust discrimination, for the service rendered in transportation. Whenever the railroads are required to transfer freight or passengers for less than just compensation, the rights of the owners of the railroads are violated; and, on the other hand, when the railroads charge more than just compensation, or make any unjust discrimination in transportation, they trespass upon the rights of the public. The

trouble is, to determine what is just compensation or unjust discrimination.

The Legislature has the power to determine this matter by positive statute, as is done in the case of mills grinding for toll, ferries, toll-bridges, turnpikes, and the like; but the variations in the measure of just compensation, and not unjust discrimination, in railroad transportation, render the exercise of this power of fixing rates by positive statute impracticable.

It was made the duty of county health boards to supervise the public health, and through their health officer to collect full vital statistics of their county.

A tramp was defined to be any person who goes from place to place or house to house, begging or demanding food, raiment, lodging, or other thing of value, without employment or other visible means of support. It was further provided that the act of begging, or vagrancy, by any person having no known residence within this State, shall be *prima facie* evidence that the person committing the same is a tramp.

As a punishment, or rather to exclude them from the State, it was provided that any person convicted of being a tramp shall be fined for the first offense not less than fifty nor more than two hundred dollars, and shall be sentenced to hard labor for the county for not less than six nor more than twelve months, and, on a second conviction for such offense, shall be fined not less than one hundred nor more than five hundred dollars, and sentenced to hard labor for the county not less than one nor more than two years; and for each subsequent conviction shall be fined and sentenced as for the second conviction.

The act for the apportionment of representatives made a small change in only four counties, which merely gained or lost a member. The number of representatives is one hundred.

There were 996 bills introduced in the House, of which 221 became laws, and one was vetoed by the Governor.

In the Senate there were about 460 bills and petitions introduced, 129 of which became laws.

It will be seen that there were some 1,456 bills introduced, and only 350, or not quite one fourth, were enacted into laws. Some failed for want of time to consider them, while others were defeated in one branch or the other of the Legislature.

Of the laws passed, forty-four are general, fifty-four are amendments of the Code of 1876, and the remainder are local or special in their nature, including sixty acts for the prevention or regulation of the sale of spirituous liquors. The adjournment took place early in the month of March.

The latest report of the condition of the Educational Department is for 1880. The total revenue for the year was \$397,465.35—the largest items being the annual appropriation of

\$130,000, the poll-tax retained by the counties for the townships and *race* paying it, \$124,597.08, and interest on the sixteenth-section fund, \$105,082.66. The principal apportionments of the fund were, for the normal schools, \$13,500; to school districts, \$258,099.52, and of course the net poll-tax, as above indicated. Teachers of white schools got \$203,681.46; of colored schools, \$158,911.13; and county superintendents got \$11,871.92. The white Normal School at Florence received \$7,500; the colored Normal at Marion, \$4,000; and the colored Normal at Huntsville, \$2,000. Each one of those schools is represented as doing well, having made considerable improvements over former years. The white Normal at Florence reports on its catalogue for the year 201 pupils, and there has not been a case of serious sickness during the entire year, which closed under circumstances gratifying to the friends of the institution. Indeed, such a degree of prosperity and popularity has it attained that it was found necessary to enlarge the accommodations for an increased number of pupils. Connected with the institution, eight teachers are reported. While music is taught as in other institutions, to those who desire to take lessons, the whole school is required to join the vocal music class, and the board expresses satisfaction at the pleasing effect of this feature of the institution. The Florence Normal School, present and prospective, has never been in so prosperous and pleasant estate. There are 100 of its old pupils engaged in teaching in the State, and many more are ready and waiting.

The Lincoln Normal University, at Marion, is reported to be in a flourishing condition. The number of pupils was 140—76 females and 64 males. Such has been the increase in the number of pupils, that an enlargement of the building has become an absolute necessity. The report shows five teachers connected with the school.

The Huntsville Normal School (colored) is also reported in a flourishing condition, the average attendance of pupils being larger than that of any previous year. Professor William H. Council, one of the most intelligent men of his race in the State, is the principal of this school. He has three assistant teachers. The average paid teachers, per month, was—white, \$20.96; colored, \$23.62; the average of pupils to teacher was—whites, 33; colored, 46. The number of white schools was 3,085, colored 1,512—total, 4,597. Number of white male teachers, 1,864; number of white female, 1,230—total, 3,094. Colored teachers, male, 1,080; colored female, 441—total colored, 1,521. The total number of teachers was 4,615. Reading, writing, and spelling were the principal branches taught.

The total school population was, white, 217,320; colored, 170,449—total, 387,769. Number of enrolled whites, 107,483; colored, 72,007—total, 179,490. Average attendance of white was 67,794; colored, 50,184. Average length of white schools in days, 83; colored, 67; the

general average for white and black combined being 80 days.

The State Penitentiary, at the latest report, contained 540 convicts, of whom only 44 are kept within the walls.

The convicts for the most part are hired to miners and farmers, most of them at \$5 per month. These are the first-class hands. There is a second class that bring only \$2.50, and a few who are let for their "victuals and clothes." The report shows, however, that as fast as the \$5 contracts expire new ones are made at \$8 per month. It is worth noting here that the sum of \$45,000 has been paid into the State Treasury during the two years. Within the five years, under the present system, \$81,000 have been paid into the Treasury, \$36,000 of State bonds canceled, besides building the Wetumpka Branch Railroad, worth \$12,921.20, and making repairs and improvements on buildings and grounds worth \$12,200. Under the new contracts, the income to the State will be largely increased. Under the old law, it cost per capita about \$59 for transporting convicts to the penitentiary; now it costs about \$1.70.

Out of the 540 convicts, there is but one solitary white woman. This lone one is thirty-five years old, and was sentenced to a term of three years, for adultery.

The number of white male convicts is only 69. The colored male convicts are 450, and colored females 20. There are some children among the colored convicts, the youngest being ten years, and is sentenced to seven years for manslaughter. There is one twelve, one thirteen, one fourteen, and quite a number ranging from fourteen to twenty. The oldest convict is seventy-five; he is in for manslaughter, for five years. There is one seventy-two years old, and is in for two years for assault with intent to murder. The life-sentences are 51. The table of previous occupations of convicts shows 489 laborers, 9 cooks, 8 carpenters, 7 house-servants, 6 farmers, 3 blacksmiths, 2 engineers, 2 shoemakers, 1 hotel-keeper, 1 baker, 1 machinist, 1 jeweler, 1 brick-mason, 1 teamster, 1 sailor, 1 musician, 1 dentist, 1 painter, 1 school-master, 1 horse-trainer, 1 timber-worker, and only 1 doctor. The doctor is in for life, for murder. The table of nativity shows: Alabama, 338; Georgia, 44; and the balance scattered, 3 being put down to England, 2 to Germany, and 1 each to Ireland, Switzerland, and Canada. The crime which is most largely represented is burglary. There are 170 burglars. Grand larceny and murder stand next on the list, there being 106 names under each of these heads. In former times horse-stealing showed the largest number of convicts, but that does not seem so popular a business as formerly, there being only one horse-thief. There are quite a number for rape, and a few for arson, and nearly every other crime has one or more representatives. In the tables touching the conduct of the sev-

eral convicts, it is put down for the most part as "good." Out of 53 employed by the Newcastle Coal Company, the conduct of every one is reported "good." Out of 46 employed by C. T. Pollard, only 2 "bad" are reported for the two years. Out of 87 employed by Colonel T. Williams, the report for the two years shows 28 "bad." The number of deaths during the two years was 60; number escaped, 26; number discharged by the expiration of sentence, 274; number pardoned, 29. Among the deaths was one suicide. A necessity has also arisen for the enlargement of the Insane Asylum, and the Legislature appropriated for that object \$50,000 for two years.

The supply of coal and iron in the State is comparatively inexhaustible. During the last ten years the iron industry has increased about 700 per cent. The production of coal has also increased with great rapidity. In 1874, 49,889 tons were mined; in 1878, 194,268; in 1879, 200,000 tons; while in 1880 the aggregate ran up to 340,000 tons. This growth has been made in the face of many obstacles, the chief of which was the want of railroad facilities, and a general impoverishment of the people by the losses of the war. The value of the output in 1880 was \$2,000,000, while it is believed the year 1881 will show a product in Alabama of \$3,000,000. In various localities of the State the manufacturing industry is rapidly increasing, and the abundant water-power brought into use. Numerous cotton-mills have been constructed and are in operation; likewise oil-works, blast-furnaces, etc. The number of spindles used in cotton manufacture in the State is 55,072, and the number of bales of cotton used during the census year was 14,887. The acreage of cotton in the State during the same year was 2,329,577 acres, and the number of bales made by the crop was 699,576, which is an increase of 62.9 per cent, or 270,094 bales, over the crop of 1870, that amounted to 429,482 bales. There are 32,000,000 acres of land in the State, of which about 14,961,175 acres are in farms, 5,082,204 are under cultivation, 9,878,971, owned by individuals, lying idle for want of some one to cultivate them, and 5,200,000 acres of government lands, which yield no taxes. Continuous effort is made to have the Legislature publish these facts in the interest of immigration, and as the State had (September 30, 1880) \$286,990.14 in the vaults of the Treasury, a call was made upon legislators to use part of this sum in developing the agricultural interests now lying dormant. Immigrants in the north of Alabama have increased taxes so largely that they will in a year or two swell the Treasury receipts \$10,000. In that section grape-culture is the principal business. An acre of cuttings will in two and a half years yield 200 gallons of wine. The soil, like that of California, seems peculiarly adapted to the grape, possessing chemical and physical qualities that insure success. The climate also conspires to growth—a dry sum-

mer, with warm rains, and a warm, unclouded fall, which perfectly ripens while thoroughly developing sweetness. The amount of taxes received into the State Treasury for the year ending September 30, 1881, was \$562,500. This sum consisted entirely of taxes on real and personal estate. About one half the amount was paid by the eleven counties of Montgomery, Dallas, Mobile, Lowndes, Hale, Bullock, Wilcox, Perry, Pike, Marengo, and Lee. The board for the assessment of the railroad property in the State increased the valuation over the preceding year by \$2,068,695. The amount of additional revenue which the State will receive from this increase is \$13,446. The assessment made for 1877 was \$10,627,559. For the year 1878 it was \$10,297,023. For the year 1879 it was \$11,023,389. For the year 1880 it was \$14,526,769, and for the year 1881 it is \$16,595,462. In the last three years, therefore, the tax valuation of the railroad property of the State has increased very nearly 60 per cent. The amount of revenue the State will derive from the roads this year will be \$120,271, which is about one sixth of the entire sum derived from taxation on property. If all other property in this State was taxed as near to its value as the railroads, the revenue would be much larger than it is, and there would be no difficulty in lessening the rate of taxation.

The population of the State, according to the census of 1880, divided into several classes, has not yet been fully compiled at the Census Office. The following is the population by counties.

COUNTIES.	Population.	COUNTIES.	Population.
Autauga.....	13,108	Jackson.....	25,114
Baldwin.....	8,608	Jefferson.....	23,272
Barbour.....	33,979	Lamar.....	12,142
Bibb.....	9,487	Lauderdale.....	21,035
Blount.....	15,369	Lawrence.....	21,391
Bullock.....	29,066	Lee.....	27,392
Butler.....	19,649	Limestone.....	21,600
Calhoun.....	19,591	Lowndes.....	31,176
Chambers.....	23,440	Macon.....	17,371
Cherokee.....	19,108	Madison.....	37,625
Chilton.....	10,793	Marengo.....	30,890
Choctaw.....	15,731	Marion.....	9,364
Clarke.....	17,806	Marshall.....	14,585
Clay.....	12,928	Mobile.....	48,653
Cleburne.....	10,976	Monroe.....	17,091
Coffee.....	8,119	Montgomery.....	52,356
Colbert.....	16,153	Morgan.....	16,423
Conecuh.....	12,605	Perry.....	30,741
Coosa.....	15,113	Piekens.....	21,479
Covington.....	5,639	Pike.....	20,640
Crenshaw.....	11,726	Randolph.....	16,575
Cullman.....	6,355	Russell.....	24,837
Dale.....	12,677	St. Clair.....	14,462
Dallas.....	48,433	Shelby.....	17,236
DeKalb.....	12,675	Sumter.....	28,728
Elmore.....	17,502	Talladega.....	23,360
Escambia.....	5,719	Tallahatchee.....	23,401
Etowah.....	15,398	Tuscaloosa.....	24,937
Fayette.....	10,135	Walker.....	9,479
Franklin.....	9,155	Washington.....	4,588
Geneva.....	4,342	Wilcox.....	31,828
Greene.....	21,931	Winston.....	4,238
Hale.....	26,553		
Henry.....	18,761	Total.....	1,262,505

The population, valuation of property, and debt, of some of the cities, were as follows:

Mobile, population, 31,205; valuation, \$12,991,795; debt, \$2,609,250. Montgomery, pop-

ulation, 16,714; valuation, \$5,506,994; debt, \$559,650. Selma, population, 7,529; valuation, \$2,500,000; debt, \$323,609.

The vote of the State at the presidential election in 1880, according to the returns of the Secretary of State, was as follows:

COUNTIES.	Hancock.	Garfield.	Weaver.
Autauga.....	978	974	15
Baldwin.....	767	663	23
Barbour.....	2,773	1,200	1
Bibb.....	737	106	..
Blount.....	1,318	260	..
Bullock.....	124	656	..
Butler.....	2,026	861	2
Calhoun.....	1,984	599	12
Chambers.....	1,913	884	23
Cherokee.....	1,390	190	..
Chilton.....	714	131	..
Choctaw.....	1,050	520	702
Clarke.....	1,173	740	..
Clay.....	1,002	82	174
Cleburne.....	904	117	..
Coffee.....	764	63	..
Colbert.....	1,237	1,072	167
Conecuh.....	1,154	843	..
Coosa.....	1,296	812	14
Covington.....	879	64	3
Crenshaw.....	1,774	231	..
Cullman.....	936	163	..
Dale.....	1,224	254	..
Dallas.....	1,794	1,108	..
DeKalb.....	759	252	91
Elmore.....	1,467	1,389	13
Escambia.....	812	235	22
Etowah.....	1,217	347	4
Fayette.....	631	202	43
Franklin.....	655	110	239
Geneva.....	460	6	..
Greene.....	943	1,463	..
Hale.....	1,736	1,549	..
Henry.....	1,729	273	..
Jackson.....	2,059	599	956
Jefferson.....	1,712	781	176
Lauderdale.....	1,743	1,228	88
Lamar.....	856	172	..
Lawrence.....	1,555	1,414	558
Lee.....	1,943	1,569	5
Limestone.....	1,600	1,623	56
Lowndes.....	1,414	2,399	..
Macon.....	538	191	..
Madison.....	2,808	3,062	439
Marengo.....	2,359	1,825	..
Marion.....	498	43	..
Marshall.....	939	83	59
Mobile.....	3,784	3,239	201
Monroe.....	1,037	821	..
Montgomery.....	2,971	5,469	39
Morgan.....	1,420	644	275
Perry.....	2,278	2,082	..
Pickens.....	1,562	214	..
Pike.....	2,327	741	3
Randolph.....	832	456	..
Russell.....	1,678	1,492	..
Shelby.....	1,455	849	8
St. Clair.....	942	496	..
Sumter.....	1,787	1,337	..
Talladega.....	1,659	1,757	62
Tallapoosa.....	2,676	779	..
Tuscaloosa.....	1,855	807	..
Walker.....	539	220	53
Washington.....	575	139	61
Wilcox.....	1,560	1,264	..
Winston.....	149	126	..
Total.....	91,185	56,221	4,642

The Legislature chosen at the same election was composed, in the Senate, of 33 Democrats; in the House, 94 Democrats, 4 Independent Democrats, 1 Greenbacker, and 1 Republican.

The State was entitled to eight members of Congress, and the vote at this election was as follows:

District.		
I.	Gillette, Republican.....	5,595
	Herndon, Democrat.....	1,000
	Threant, Republican.....	2,303
	Mott, Greenback.....	730
II.	Strobach, Republican.....	8,884
	Herbert, Democrat.....	13,271
	Townsend, Greenback.....	52
III.	Mabson, Republican.....	5,636
	Oates, Democrat.....	10,614
	Zachary, Independent.....	69
	Smith, Republican.....	6,650
IV.	Shelley, Democrat.....	9,301
	Stevens, Colored Republican.....	1,633
	No opposition.....	..
V.	Williams, Democrat.....	9,219
	No opposition.....	..
VI.	Hewitt, Democrat.....	10,043
	Clements, Democrat.....	9,73
	Bingham, Republican.....	5,111
VII.	Forney, Democrat.....	12,858
	Lowe, Republican.....	12,765
VIII.	Whceler, Democrat.....	12,808

The vote for State officers at the same election was as follows:

FOR SECRETARY OF STATE.

H. M. Judge, Greenback.....	37,618
W. W. Screws, Democrat.....	121,375
Turpin, Greenback.....	975

FOR ATTORNEY-GENERAL.

Paul L. Jones, Greenback.....	28,631
H. C. Tompkins, Democrat.....	121,375

FOR TREASURER.

William T. May, Greenback.....	38,009
J. H. Vincent, Democrat.....	121,751

FOR AUDITOR.

J. H. Cowen, Greenback.....	38,852
J. M. Carmichael, Democrat.....	124,781

ALASKA. Some important facts respecting the population and resources of Alaska have been obtained by the late agent, Mr. Ivan Petroff, for taking the census of that region. The entire Alaskan country as far north as the Yukon was examined, and tabulated reports are given, village by village, of the inhabitants. The people of the Territory may be divided as follows: 1. The Innuut or Esquimau race, which predominates in numbers and covers the littoral margin of all Alaska, from the British boundary on the Arctic to Norton Sound, of the lower Yukon and Kuskokvim, Bristol Bay, the Alaskan Peninsula, and Kodiak Island, mixing in, also, at Prince William Sound. 2. The Indians proper, spread over the vast interior in the north, reaching down to the sea-board at Cook's Inlet and the mouth of Copper River, and lining the coast from Mount Saint Elias southward to the boundary, and peopling Alexander Archipelago. 3. Least in numbers, but first in importance, the Aleutian race, extending from the Shumagin Islands westward to Atto—the *ultima Thule* of this country. The grand total of population is: whites, 392; creoles, 1,683; Aleuts, 2,214; Innuits of Kodiak, 2,196; of Togiak, 1,826; of Bristol Bay, 2,099; of Kuskokvim, 3,505; of Yukon, 3,359; of Behring Sea, 1,533; of the Arctic coast, 2,990; Indians, 8,401—total, 30,178.

ALEXANDER, E. B., died March 15, 1881, being a colonel in the United States Army. This meritorious officer, of whose death the

War Department was informed, became gray in the service of the Union. He was well known throughout the country, but more particularly in Missouri, having filled the office of Provost-Marshal-General of that State in an able, firm, and upright manner. His headquarters were in St. Louis in the year 1865. Colonel Alexander belonged to the old-school class of army officers, and, like many others, was outstripped in the race for rank by junior officers who entered the lists full of ardor and vigor at the outbreak of the civil war. He commanded the Utah Expedition until relieved by General Johnston, when Grant, Sherman, and McClellan were simply lieutenants, and his service extended through a period of forty years. Graduating at the West Point Military Academy, June 30, 1823, he was the next day promoted brevet second-lieutenant of the Sixth Regular Infantry, and on the 25th of December, 1827, was made a full lieutenant. He attained the rank of captain of the Third Infantry, July 7, 1848; was brevetted major, April 18, 1848, for gallant conduct in the battles of Contreras and Churubusco. At the close of the Mexican War he was promoted to be colonel of the Tenth Infantry, after which he served the Government at Santa Fé, New Mexico, and other points. At the beginning of the civil war, Colonel Alexander was stationed at Fort Laramie, and offered his services, and that of his regiment which was much devoted to him, again and again to the Government, but was retained on the frontier on account of his influence with the Indians. In the spring of 1863 he was ordered to St. Louis as Acting Assistant Provost-Marshal-General, the business of which office was to superintend the district provost-marshals, to be informed on the condition of the State, execute the draft, arrest deserters, and to superintend the mustering, in and out, of the troops. This duty was usually assigned, in the respective States, to old and tried army officers, and Colonel Alexander's performance of it, in a manner at once able, honest, and faithful, is well attested. After a life of unquestionable integrity and devotion to duty, this lamented soldier was in 1869 placed upon the retired list, having been brevetted a brigadier-general for his services in recruiting the army during the war.

ALEXANDER II, Emperor of Russia, was assassinated by Nihilist conspirators, March 13th, at St. Petersburg. Born April 29, 1818, Alexander Nicolaevitch's prospects of succeeding to the throne seemed the remotest possible. Four years afterward his uncle Constantine in family conclave renounced the succession, and in his seventh year Alexander I Pavlovitch died in the prime of his life, murdered it is supposed, and was succeeded by Nicholas, the third son of Paul I. The infant Alexander, the Czar's eldest son, was now heir-apparent, but, during the thirty years of his father's reign, his life was almost as unimportant as

that of a grand duke in a collateral line, which seemed his destined lot when in the cradle. His earliest training was directed by his mother, Alexandra Feodorevna, a sister of the present German Emperor; but his father soon withdrew him from the care of the mild, refined Czarina, and sought to inculcate in his heir the thoughts and ways of a soldier. The gentle, kindly, easy-going character of the Czarevitch, different from the arbitrary and passionate temper usually characteristic of the Romanoff family, afforded poor material for a military martinet. His tutor, the poet Shukofsky, instilled in him a love of literature and the contemplative science in vogue in Germany. He was endowed with the linguistic talent of his race in a marked degree, and acquired a familiar acquaintance with the principal modern languages. The ceremonial observances, incumbent on the heir to the throne and nominal commander in the army, formed the chief part of his public activity. At the age of sixteen he was declared of age, and appointed Hetman of the Cossacks and Commandant of the Guards. In 1836 and 1837 he traveled through Northern Russia and Siberia, where he procured the alleviation of the hard lot of political exiles. In 1839 and 1840 he visited various countries of Europe. In 1841 he was married to the Princess Maximiliane Maria of Hesse (see MARIA ALEXANDREVA in "Annual Cyclopædia" for 1880). From this marriage came six sons (the Grand Dukes Nicholas, Alexander, now Alexander III, Vladimir, Alexis, Sergius, and Paul), and Maria, now Duchess of Edinburgh. In the following years he traveled in Southern Russia, the Caucasus, and Armenia. On one of his tours he took part in an expedition against a tribe of Circassian robbers. He held the post of Director of the Military Schools, but the duties were performed by his assistant, General Rostoftsef, who afterward took a prominent part in the emancipation of the serfs. The Czarevitch was president of one of the commissions appointed to inquire into the condition of the serfs, but gave little attention to the investigation, and favored rather the proprietors than the peasantry. Nicholas was disappointed in his son, who was overawed by his father, as was nearly every one who came in contact with that majestic autocrat. "My son Shasha is an old woman," Nicholas once said; "there will be nothing great done in his time." Had he not wisely kept aloof from state affairs, Alexander, from his very different habits of mind, might have given his father a better opinion of his strength of character by coming into unhappy conflict with the "Iron Czar." He is said to have earnestly protested against the advance on Turkey in 1853. The military schemes of Nicholas, to which he had sacrificed all the best interests of the empire, came to naught, and the Emperor died of shame and disappointment after the loss of the Crimean War. Alexander II

mounted the throne of the exhausted empire on March 3, 1855.

The spread of education in Russia had as its concomitant an extension of liberal ideas. The impressionable religious character of the Russian mind causes a reform movement in Russia to rapidly break out of the bounds of the timely and the practicable. Relieved from the repressive tyranny and the military code of the reign of Nicholas, Young Russia indulged in dreams of social regeneration which were too bright to be realized. The new Czar was in thorough sympathy with the progressive spirit of the time. The reforms which he instituted in the earlier part of his reign seemed in the minds of the enthusiastic revolutionists, who formed three quarters of the educated people of Russia, to open an era of liberty and enlightenment which was to place Russia in the van of all the nations. Alexander was not carried away with the extravagant enthusiasm which was rife; but, while proceeding with caution, he showed himself disposed to follow to the farthest practicable extent the path of social and political reform. On the 3d of March, 1863, he accomplished by his fiat one of the most gigantic and far-reaching revolutionary events of all history—the emancipation of the Russian serfs. This was the one popular reform of his reign which he never sought to modify or recall. As he was revered in his life-time by the liberated peasantry as the Czar Emancipator, so he will live in history by the same title as one of the most illustrious of his line. Besides the great act of his reign, he instituted internal reforms of great importance. To strike off the shackles of thought, to open the press for the free expression of opinion, and to rid the universities of the drill-masters who subjected professors and students to the discipline of the barracks and exercised a ruthless and ignorant censorship over the studies, was one of the earliest acts of the reforming Czar, and one of the first to be revoked. The system of education was in many particulars improved. The army and navy were reorganized. Trade and industry were specially encouraged. New commercial routes were opened. A revision of the laws was taken in hand. A judicial system on the French model was instituted, the penal code was framed, and the methods of civil and criminal procedure were greatly simplified. A new system of municipal administration was introduced. Limited rights of local self-government and taxation were accorded to districts and provinces, to be exercised by elective assemblies. It was hoped and expected that Alexander would end by conferring a constitution upon Russia, and confide to the people the control of the national destinies. Suddenly the Czar stopped short in his progressive course, reintroduced the harshest of the repressive regulations which he had abolished, and devoted the rest of his life in vainly striving to lay the spirit which he had himself invoked.

The courage with which he persisted in the reactionary policy, offending the most intelligent section of the people, and standing in hourly danger of assassination, was equal to that with which he had faced the wrath of the aristocracy in abolishing serfage. He probably made up his mind tardily that the autocratic principle was essential to the unity and happiness of Russia, and that he had imperiled it and must rescue it at all hazards. The heterogeneous races in Europe and Asia, standing on very different planes of civilization, could hardly be made the recipients of equal rights of representation in a constitutional state without swamping the culture of the very classes who were clamoring for a constitution. Then the idea of the autocracy is so bound up with the religious sentiments of the mass of the people that Alexander II probably recoiled from the responsibility of subjecting their faith and morals to the strain they would have to undergo upon his abdicating his traditional authority, and breaking off his paternal relations to his people.

Prudence and benevolence were the leading traits of Alexander's character. Without being endowed with profound sagacity, he sought conscientiously to make up his own mind in every juncture, and in every course which he chose was carried by circumstances farther than he foresaw. He had far-sighted men to advise him, but, instead of implicitly trusting to their genius, he followed in great matters his independent judgment, from a sense of duty rather than from self-confidence. He was never carried away with enthusiasm, nor over-hopeful of grand results, but was easily influenced by popular sentiment, which he gave way to as far as his cautious nature would admit. In the emancipation of the serfs his heart was thoroughly enlisted, and he acted in advance of public opinion; in everything else he followed hesitatingly, and always feeling his way. The power of Russia was rapidly extended in Asia during the whole of Alexander's reign. In 1860 a favorable treaty was struck with China, by which Manchuria was secured. In Central Asia one khanate after the other was put through the gradual process which ends in absorption into the Muscovite dominion. In Europe, Russia was silent for many years. She was not "sulking, but recruiting," Gortchakoff declared. In 1863 the Polish rebellion might have been successful but for the aid of Prussia. Then Prince Gortchakoff informed the Western powers that Russia would listen to no intercessions on behalf of the "kingdom of Poland." During the Franco-German War the keen diplomat improved the situation and repudiated the stipulation in the Treaty of Paris forbidding Russia to maintain a naval armament in the Black Sea, on the ground that treaties are only binding so long as both parties are agreed! This cool declaration placed Russia again in her traditional attitude. But for the events of

which it was the prelude the Chancellor was not responsible. He, as well as the Finance Minister, and other members of the Cabinet, earnestly tried to dissuade the Czar from his attitude to the Slav agitation which led to the Turkish War. The Emperor had no sympathy with the Pan Slavistic cause. Between him and the Philoslav party there were only mutual distrust and repulsion. But he refused to check the belligerent proceedings of the Slavonic Benevolent Society and the Moscow Slavonic Society, or to forbid his officers to volunteer in the Servian War, because his sympathies were with the Turkish Christians, and he could not in his conscience disapprove the intense popular feeling of the time. The traditional duty of the Czar to protect the Orthodox Christians of Turkey was present in his mind, not the desire of founding a Pan Slav empire or of forcing the Eastern question and conquering the Bosphorus. He was drawn into the war without anticipating it. The speech which he made at Moscow, in which he declared that, if Europe would not secure a better position for the oppressed Slavs, Russia would act alone, he expected would serve as a menace which would be sufficient to bring Turkey to her reason. He was with the army until after the capture of Plevna, visiting the hospitals frequently and winning the hearts of the soldiers by the sincere sympathy and kindness which he showed for the sick and wounded. The grief which he felt for the misery caused by the war was recognized by the people. He was called the "Martyr" and the "Guardian Angel." Yet he refused to listen to advisers who urged the conclusion of peace before the Turkish power was broken.

The first attempt on the Czar's life was in 1866. The following year he was assaulted with murderous intent in the Bois de Boulogne at Paris. After the conclusion of the Berlin Treaty, the flames of Nihilism burst out all over Russia. It became evident that every branch of the public service, every social circle, even the higher ranks of officials, the first families of the aristocracy, and probably the imperial family itself, contained agents and friends of the revolution. A mania for desperate conspiracy seemed to rage. Heterogeneous disaffected elements sought to attain their various objects through a political cataclysm; but the authors and perpetrators of the revolutionary deeds were the Russian socialists, the most daring and resolute political conspirators of any age. Every arrest and condemnation for political crime was a provocation for acts more flagrant and defiant. In 1879 the Emperor knew that his death was compassed by the Nihilistic committee in St. Petersburg, the central source of terrorism. The Czarina died in 1879. The relations of the Czar to the Princess Dolgorouky, his determination to marry hermorganatically, and the vehement opposition of his children, were the cause of additional unhappiness at the time when he felt

that the sword of Nihilism was suspended over his head. He did not shrink from the task of trying to extirpate the dangerous growth. The measures taken are described in the last two volumes of the "Annual Cyclopædia." In April, 1879, the school-master Solovieff fired four times at the Czar in the palace garden at St. Petersburg. In November the dynamite mine was exploded on the Moscow Railroad, which, owing to a change in the programme, destroyed the baggage-train instead of the carriage in which the Emperor was traveling. In February, 1880, explosives fired in the cellar of the Winter Palace would have destroyed the Czar and his guests while at dinner, had he not by a rare chance been a few minutes late. Melikoff's administration of the extraordinary powers confided to him seemed to be successful in unearthing the Nihilist conspirators and checking their activity. There was a prospect that a man of his liberal ideas and popular sympathies might eventually find out a remedy for the disorder more effective than mere repressive violence. But the murder of the Czar altered the situation. The plot was laid this time so that the Emperor could hardly escape and his assassin must surely be captured. Four conspirators were posted along the street through which the Czar was driving home from a review. Each had ready to cast a small bomb of certain and terrible explosive power. Confederates in the throng gave the signal. The second petard proved fatal. The particulars of the plot and the disclosures of the trial of the conspirators are recounted in the article RUSSIA.

ANGLICAN CHURCHES. The clerical list of the Church of England for 1880 contains twenty-six thousand names, showing a gain of about six thousand clergymen since 1859. More than six thousand clergymen are not in pastoral work.

According to the report of the *Ecclesiastical Commissioners* for England, four thousand seven hundred benefices were augmented and endowed by them between 1840 and 1880. The increase in the incomes of benefices, from the augmentations and endowments made by the commissioners or through their instrumentality, amounted on October 31, 1880, to about £756,500 per annum, representing the income from a capital sum of about £23,000,000.

The eighty-second annual meeting of the *Church Missionary Society* was held in London, May 3d, the Earl of Chichester presiding. The total receipts for the year had been £207,508, of which £189,685 were applicable to the general expenditure, the rest having come in special contributions. Besides the European missionaries, 110 native clergy and 1,720 lay teachers were employed in the missions, and 1,000 schools were attached to them. The report stated that between three and four thousand well-instructed adult converts were baptized each year through the society's labors. The missions in India absorbed one half the mis-

sionaries of the society, and nearly half of its foreign expenditure. The native churches in West Africa were gaining strength and taking upon themselves more and more the responsibilities of pastoral and missionary work. The spiritual and philanthropic work of the Freretown mission, in East Africa, had been carried on with unceasing energy. Reports were also made of the mission at Uganda, of the missions at Jerusalem, Jaffa, Gaza, Nablus, and the Hauran, in Palestine, of stations in Persia, and the other older and extensive missions of the society.

The one hundred and eightieth annual meeting of the *Society for the Propagation of the Gospel in Foreign Parts* was held May 12th, the Archbishop of Canterbury presiding. The income of the society during 1880 had been £138,288, against £131,674 in 1879. Five hundred and eighty-six ministers had been employed during the year: 157 in Asia, 121 in Africa, 54 in Australia and the Pacific, 253 in America and the West Indies, and one in Europe. There were also in connection with the society 1,242 catechists and lay teachers, mostly natives in heathen countries, and about 250 students in colleges abroad, who were in training for the work of the ministry in the lands of their birth.

The *Convocation of Canterbury* met for the dispatch of business, February 8th. The archbishop presented to the Upper House the subject of the addresses which had been sent to him for and against greater liberty in ritual. A resolution was passed in the Upper House requesting the archbishop to take steps with a view to obtaining from the crown a letter of business committing to convocation the work of providing for a fuller representation of the parochial clergy in the Lower House; the Lower House, however, declined to concur in this action. A resolution was passed in the Upper House approving of the scope of the bill which had been introduced into the House of Commons by Mr. E. Stanhope, to give effect to the recommendations of the Royal Commission on the sale and exchange of benefices. A report having been presented from the Lower House on the recommendations of a committee which had been appointed "on the relations of church and state," suggesting that greater authority should be given to convocation, the Upper House requested the archbishop to move for a royal commission to consider the subjects of clerical discipline and of courts of first instance and of appeal in ecclesiastical causes. An *articulus cleri* was adopted by the Lower House and sent up to the Upper House, asking that body, in view of the uncertainties that were thought to surround some recent interpretations of ecclesiastical law, and of the peculiar character of the parishes and the congregations placed in similar religious circumstances, to discountenance as much as possible legal proceedings in such matters. In making this request, the resolution said:

The Lower House feels that this forbearance must be conditioned by limitations.

The Upper House adopted a resolution declaring that—

Litigation in matters of ritual is to be deprecated and deplored, and if possible to be avoided. This House also declares that authority to settle differences in such matters is inherent in the episcopal office, as witnessed by ancient practice, and as referred to in the preface of the Book of Common Prayer; and while this House entertains the hope that the clergy, as in duty bound, will, in conjunction with the laity, support the legitimate authority, it also expresses its confidence that this authority will be exercised by the bishops of this province in their respective dioceses, with the earnest endeavor to compose such differences without litigation, and at the same time to maintain order, decency, purity of doctrine, and edification in Divine worship.

The convocation met again May 17th. The committee which had been appointed in 1870 for the revision of the authorized version of the Holy Scriptures reported that the revision of the New Testament had been completed, and presented the volume containing the same. The Bishop of Gloucester and Bristol spoke upon the character and extent of the labors of the committee, after which thanks were recorded to those members of the body who were not appointed by convocation. A resolution was adopted in the Upper House for the appointment of a joint committee of both Houses, to inquire into the remedies provided by law for neglect of duty by the clergy. The special attention of the parliamentary committee was asked by the Lower House for the Charity Trusts Bill. A resolution was adopted as an *articulus cleri* deprecating any further relaxation of the oath of allegiance required from persons seeking admission into Parliament. The Bishop of Llandaff stated that a committee had been appointed by the Welsh bishops and clergy to consider the expediency of undertaking a revised version of the New Testament in the Welsh language.

The convocation met again July 19th. The alleged neglect of baptism, and a proposition for the constitution of a Board of Missions, were discussed in the Upper House, and projects for giving religious instruction to seamen, and for securing the simultaneous bringing forward of church questions in church conferences and synods, in the Lower House. The Bishops of Lincoln, Exeter, and Truro were requested to consider what measures could with propriety be taken to secure the release of the Rev. S. F. Green, who was in prison for contumacy in resisting an order of the court, commanding him to desist from certain practices in ritual which had been declared unlawful.

The *Convocation of York* met April 26th and 27th. A motion was offered by the Bishop of Manchester to the effect that, in view of the doubtfulness attaching to the interpretation of the rubric relating to ornaments of the church and of ministers, as it now stands, and of the frequent litigation that has ensued, the rubric should be expunged, to establish a clear and

distinct rule in the matter, conformable to the usage which has prevailed in the Church for the last two hundred years. The resolution was unanimously adopted in the Upper House after some discussion, but was lost in the Lower House. A resolution was passed for the appointment of a committee to consider, with a committee of the Convocation of Canterbury, the constitutional relations between the ecclesiastical and civil authorities, and the best methods whereby common action may be taken by them in matters affecting the Church.

The Archbishop of Canterbury moved in the House of Lords, March 7th, the resolution which had been approved by the Convocation of Canterbury, for the appointment of a royal commission to inquire into the constitution and working of the ecclesiastical courts as created or modified under the Reformation Statutes of the 24th and 25th of King Henry VIII, and any subsequent acts, and the resolution was adopted without a division.

The Archbishop of Canterbury, with the advice and consent of the bishops of both provinces, published a letter in September in answer to a memorial which had been presented to the convocation in May, concerning what further steps could be taken toward grappling with infidelity and indifference to religion, and particularly suggesting the extension, with some modifications, of the plan for employing lay agents in directly spiritual work which had already been partially introduced in a few dioceses. After reviewing what had been accomplished so far by the employment of lay agents, the archbishop recommended that in every diocese laymen should offer themselves to the parochial clergy for the distinct work of readers; that the clergy should widely make known their desire to receive the co-operation of such laymen; and that when suitable men had come forward and been approved, they should receive a formal commission from the bishop, solemnized by an appropriate religious service. Such lay readers, the archbishop advised, should occupy a definite office, distinct alike from that of the ordinary lay helpers, and from that of women engaged in similar work.

The annual conference and annual meeting of the *Society for the Liberation of Religion from State Patronage and Control* were held May 11th. Mr. H. R. Ellington presided. The executive committee, in its report, congratulated the friends of the society on the revival of public interest in domestic questions, which would be certain to prove advantageous to the cause of disestablishment. Three quarters of a million copies of publications had been circulated, and about three hundred and fifty meetings had been held, during the year. Some advantage had been and would be taken of the interest shown by the farmers in the question of tithes. The passage of the Burials Act and its successful working were referred to in congratulatory terms. Resolutions were adopted

in respect to the death of Mr. Miall, the founder and chief promoter of the society, and a resolution was passed to the effect that—

While the Council will gladly support measures which will put an end to the traffic in church livings in the Church of England, it feels bound to oppose proposals which provide for the perpetuation of the traffic under whatever conditions, believing that the corrupt and illegal practices disclosed before the Royal Commissioners will not cease until the right to appoint to benefices ceases to be treated as property capable of being sold or bequeathed. And the Council expresses great surprise that the present Lord Chancellor should have brought in the Augmentation of Benefices Act Amendment Bill, which aims at increasing the value of crown livings for the express purpose of making them salable, and of thereby converting public into private patronage.

At a private conference of persons interested in the work of the *Church Defense Association* held March 28th, the Archbishop of Canterbury presiding, a resolution was passed declaring—

That in view of the strenuous and persistent efforts now being made to prejudice the public mind against the national Church, it is indispensable that a corresponding effort be made on the part of all who are attached to her, without distinction of religious or political party, to take such steps as may be needful for putting distinctly before the country the truth as regards the work, history, and position of the Church of England.

Efforts to add to the funds of the association were also resolved upon, in pursuance of which the Archbishop of Canterbury shortly afterward addressed a letter to the clergy directing their attention to the objects and operations of the Liberation Society, and the necessity of giving increased support to measures for counteracting them.

The twenty-first annual *Church Congress* was held at Newcastle-on-Tyne, beginning October 4th. The Bishop of Durham presided. The question of ritual was discussed under the topic of "The Limits within which Variations of Ritual may be permitted," by the Dean of Durham, Archdeacon Bardsley, Earl Nelson, the Dean of Chester, the Rev. Berdmore Compton, and the Rev. P. G. Medd. The question of "the Ecclesiastical Courts; the Principles on which they should be constituted, and the Methods by which their Decisions can be made more effectual," was considered by the Hon. and Rev. W. H. Fremantle, Dr. H. Cowie (Chancellor of the diocese), the Hon. C. L. Wood, Sir W. Worsley, and others. Other subjects which engaged the attention of the Congress were: "The Relation of the Church of England to Churches in Communion with her in (a) Scotland, (b) Ireland, (c) America and the Colonies"; "The Duty of the Church in Respect to the Prevalence of Secularism and Spiritualism"; "The Organization and Development of Lay Work in Connection with the Church, that of Men and that of Women"; "The Connection between Church and State, what we gain by it and what we lose by it"; "The Adaptation of the Parochial System and of Public Worship to the Require-

ments of Towns and Rural Districts"; "The Responsibility of the Church as regards the Opium-Trade with China"; "The Relation of the Church to the Social Movements of the Age, with Special Reference to Trades-Unions and Co-operation, and to the Local Administration of the License Laws"; "The Principles of the English Reformation as bearing on Questions of the Present Day"; "The Temperance Work of the Church, especially in Relation to its Parochial Organization"; "The Proper Attitude of the Church toward the Question of Sunday Observance"; "The Claims of the Revised Version of the New Testament to General Acceptance"; "Modes in which Religious Life and Thought may be influenced by Architecture, Painting, Sculpture, and Music"; and questions relating to the diocese of Durham, and the Elementary Education Act.

A judgment on the appeal of Mr. Mackonochie, a clergyman under censure for ritualism, against a decision of the Court of Arches, depriving him of his office, was given in the House of Lords, April 6th. The substantial question in the case, which had been argued a few weeks before, was whether Lord Penzance had power, as Dean of Arches, to pronounce a sentence suspending Mr. Mackonochie, *ab officio et beneficio*, for disobedience to a previous monition. The sentence of the Court of Arches had been upheld by the Court of Appeal, and their lordships now affirmed the decision of that court, and dismissed the appeal, with costs.

The fourth meeting of the General Synod of the *Irish Episcopal Church* was held in April. The Representative Body reported a summary of its work during the past ten years. The Body had now in its hands a capital of £7,500,000, of which £3,000,000 would be left after all claims and annuities were fully discharged, for the future re-endowment of the Church. Of this amount about £1,500,000 had been derived directly from the composition of annuities, and about £2,000,000 from voluntary contributions made to church funds during the last eleven years. About £130,000 a year was provided by way of parochial endowment, which, with parochial assessments amounting to £136,000, would provide about £266,000 for clerical sustentation. About £12,901 per annum would be secured for episcopal sustentation, and £25,000 would be set apart as the nucleus of a fund to provide for aged ministers. Glebe-houses would be provided for 935 out of 1,140 parishes, at a cost of £543,000. A resolution was adopted looking to the revival of the bishopric of Clogher, which has been for a long time amalgamated with the primacy of Armagh.

The British Government having determined to discontinue the ecclesiastical subsidies which had hitherto been paid out of the colonial revenues to the Church of England in Ceylon, requested the Bishop of Colombo to take steps to have a trust body elected for the Church of

England, to which the property and interests held by the Church might be transferred, and to have provision made for the future maintenance of the churches which had hitherto enjoyed the governmental endowments. The bishop called a representative assembly, to consist of all the presbyters of the diocese and two laymen for each presbyter, elected by the congregations, to meet on the 5th of July. On the meeting of the synod, differences arose respecting the apportionment of delegates, the representatives of the Church Missionary Society claiming that it should have been made according to the number of members in the churches, and complaining that, according to the actual allotment, their churches with six thousand members had only thirty-four delegates, while the other churches in the island, with only seven thousand members, were allowed seventy delegates. A motion was made to assert the incompetency of the Assembly to deal with the questions before it, as it was not a fully representative body. This being ruled out of order, the representatives of the churches of the Church Missionary Society withdrew in a body. Four trustees were chosen to take care, under the control of a Central Board of Finance, of all the property to be transferred by the crown; and provision was made for the election of a bishop in case a vacancy in the office should occur before the Constitution of the Church is settled. A committee to consist of clergymen of all the shades of theological thought, and one layman to be selected by each clergyman, was agreed to by both sides, to which should be referred the question of the organization of the synod.

ANGLOICAN RITUALISTIC CONTROVERSY. The controversy concerning the ritual, and with it the collateral question of the jurisdiction of civil courts over ecclesiastical affairs, engaged attention in the Church of England above all other subjects. These questions, or points connected with them, were the subjects of numerous memorials to the bishops, archbishops, convocation, and officers of the Government, of many addresses and letters by bishops, of public meetings, and of important discussions in the convocations.

The Archbishop of Canterbury having invited those of the clergy who felt dissatisfied or alarmed at the present circumstances of the Church to state what they desired in the way of remedy, the Dean of St. Paul's and about three thousand clergymen and others addressed to him a memorial, as follows:

First of all, and especially, we would respectfully express our desire for a distinctly avowed policy of toleration and forbearance on the part of our ecclesiastical superiors in dealing with questions of ritual. Such a policy appears to us to be demanded alike by justice and by the best interests of religion. For justice would seem to require that unless a rigid observance of the rubrical law of the Church, or of recent interpretations of it, be equally exacted from all the parties within her pale, it should no longer be exacted from one party alone, and under circumstances which often increase the difficulty of complying with the

demand. And, having regard to the uncertainties which have been widely thought to surround some recent interpretations of ecclesiastical laws, as well as to the equitable claims of congregations placed in the most dissimilar religious circumstances, we can not but think that the recognized toleration of even wide diversities of ceremonial is alone consistent with the interests of true religion, and with the well-being of the English Church at the present time. The immediate need of our Church is, in our opinion, a tolerant recognition of divergent ritual practice; but we feel bound to submit to your Grace that our present troubles are likely to recur unless the courts by which ecclesiastical causes are decided in the first instance, and on appeal, can be so constructed as to secure the conscientious obedience of clergymen who believe the constitution of the Church of Christ to be of divine appointment, and who protest against the state's encroachment upon rights assured to the Church of England by solemn acts of Parliament. We do not presume to enter into details upon a subject confessedly surrounded with great difficulties, but content ourselves with expressing an earnest hope that it may receive the attention of your Grace and of the bishops of the Church of England.

The archbishop replied to the memorial by republishing a letter which he had previously addressed to Canon Wilkinson, in which he said:

It is a peculiarity of the present troubles that the clergymen who have fallen under the penalties of the law, in a way we all much regret, have come under the authority of the Provincial Courts of Canterbury and York, as the result of their having positively refused to conform to the admonition of their bishops; and, indeed, so far as I know, no case of prosecution for ritual has (at least for many years past) been allowed to proceed in the case of any clergyman who was willing to comply with such admonition. It certainly may fairly be taken to show that there must be some exceptional difficulty in present arrangements when clergymen of otherwise unimpeachable character think it their duty to run the risk of having their usefulness in their parishes rudely interrupted by the authority of the law rather than yield to those set over them in the Lord that degree of willing obedience which seems to most men to be enjoined alike by the traditions of their Church and the written words of the prayer-book (in the preface, "Concerning the service of the Church"), as well as by their promise of canonical obedience. I am quite sure I may undertake for my brethren of the Episcopate that we are ready very carefully to consider at the present juncture the grounds which appear to have led to so strange a result.

The archbishop alluded to a petition embodying the views of the memorialists, which had been presented to convocation in 1877, referred to a committee, and reported upon by the same in 1879, and promised to call the attention of convocation to the report and the subject as soon as the forms of that body would allow. A memorial signed by several dignitaries of the Church, among whom were Bishops Perry and Ryan, and the Deans of Exeter, Carlisle, Ripon, Chester, Gloucester, Peterborough, and Canterbury, was afterward presented to the archbishop, opposing the memorial of the Dean of St. Paul's and others. The signers of this address said:

We have no desire to narrow the comprehensiveness of the national Church, or to abridge that reasonable liberty which has always been conceded to churchmen in matters non-essential. We are, however, firmly convinced that neither in public prayer nor in admin-

istration of the sacraments ought there to be granted any toleration of the use of vestments and symbols avowedly introduced as exponents of doctrines which we believe to be unscriptural, or which had been declared to be not in accordance with the plain intention of the articles and formularies of the Church of England. We therefore respectfully but firmly entreat your Grace to give no countenance to any attempt to procure toleration for ritual practices, which for more than three hundred years, and until a very recent date, were almost unknown to the Church of England, and which, when submitted to the highest courts, have been declared to be contrary to the laws of the Church of the realm.

The archbishop, presenting the matter of these memorials before the Convocation of Canterbury, at its meeting February 8th, remarked that there seemed to be a certain indefiniteness about those addresses which asked for a greater amount of liberty in the matter of ritual, and it seemed to have been overlooked that, while there was an innocent liberty, there was a liberty which degenerated into license. He had no reason, however, to believe that those who had asked this had any desire for the use in the Church of England of any form of the Roman Catholic communion which might be identified with the profession of Roman Catholic customs. The bishops in their dioceses, under whose jurisdiction these matters came, would not, he supposed, be disposed to interfere with lawful ornamental ritual not contrary to the doctrines and principles of the Church of England; and he also supposed that the law was now so interpreted that great discretion was shown to be left to their lordships as to whether or not prosecutions or suits against clergy in ritual matters should proceed; so that now the bishops could refuse to sanction a mere vexatious attempt to interfere with a worship which approved itself to the parishioners, and was not contrary to law. He did not think that any more than this should be claimed, and it could not be expected that there would be any legislation in the direction of legalizing those things which the Reformation had abolished. The convocation suggested a reference of the subject to a royal commission, and advised that authority be given to the bishops to settle difficulties that might arise, and that they exercise such authority discreetly and kindly.

A memorial signed by nearly twenty-four thousand laymen was presented to the Archbishop of Canterbury, April 2d, entering the solemn and emphatic protest of the memorialists against the toleration, within the Church of England, of any doctrines or practices favoring the restoration of the Roman Catholic mass or any colorable imitation thereof, any re-introduction of the confessional, or any assumption of sacerdotal pretensions on the part of the clergy in the ministration of the Word and sacraments.

The public attention was kept fixed upon the ritualistic controversy by the proceedings in the courts in cases of ritual, by the fact of the imprisonment of clergymen who had been adjudged guilty of contumacy in violating the

law of ritual and in disregarding the inhibitions of the courts, by the protests of the friends of the imprisoned clergymen against their imprisonment, by agitations for their release, and by appeals to the public, the bishops, and the civil officers, in their behalf. The Rev. T. P. Dale, of St. Vedast's, London, and the Rev. W. R. Enraght, of Holy Trinity, Bordesley, had been imprisoned in 1880 for disregarding monitions which had been served upon them by the Court of Arches, ordering them to relinquish certain practices which had been declared illegal by the Privy Council. They both refused to submit to the decree of the court, declaring that they could not do so without violation of conscience. Mr. Dale took an appeal, and was released pending the hearing of the appeal, promising as a condition of his freedom that he would not conduct services in his church, nor even attend the church on Sunday. A release was offered to Mr. Enraght on the same conditions, but he refused to accept it, on the ground that to do so would involve his obedience to the inhibition of Lord Penzance, a condition under which he would not rest for a longer or a shorter period, for it was the very ground of the contention. The Bishop of Worcester was requested in January to take some steps to induce Mr. Enraght to amend his conduct or resign his appointment as an alternative to the bishop's taking a decided course to uphold the authority of the Ecclesiastical Court. The bishop replied that he could see no reason to hope for such an end to the troubles as his correspondent desired. The vicar had publicly declared his rejection of all direction or control or advice from the bishop, and the latter was not aware of any power vested in a bishop by which he could uphold the authority of the Ecclesiastical Court. Mr. Enraght was released from jail on account of the detection of an error in the manner in which the writ against him had been dealt with in the temporal court. Another order for his imprisonment was subsequently asked for, but he having taken an appeal to the House of Lords, judgment on the application was postponed. The appeal of Mr. Dale was dismissed; but that clergyman having accepted an incumbency outside of London, no further proceedings were had against him.

The case of the Rev. S. F. Green, of Miles Platting, Manchester, attracted more interest than any other, and was the incident to which the agitations of the year most directly related. Ritualistic practices were already observed in his church when he took charge of it, and he introduced others, with the approval of his patron and a majority of the congregation. A prosecution was instituted against him at the instance of the Church Association; he was tried in the Court of Arches, inhibited, and assessed in costs. He refusing to pay the costs or obey the inhibition, a bailiff was lodged in his house. Afterward, on the 9th of March, a writ *de contumace* was issued against him, and

he was imprisoned in Lancaster Castle. Application for a writ of *habeas corpus* with a view to his discharge was refused by the Court of Queen's Bench, April 6th. An appeal was taken to the House of Lords and was dismissed, while the judgment of the Court of Arches was sustained.

Mr. Green's case was taken up by the English Church Union, which represented that the penalties to which he was subjected were inflicted upon him because he obeyed his conscience. It was said on behalf of the courts and the Church authorities that he could be released at any time upon his simply promising to obey the writ of inhibition and to desist from unlawful practices. The case was brought directly before the Convocation of Canterbury at its session in July, when, an *articulus cleri* having been adopted by the Lower House, asking the bishops to consider what measures could be taken with propriety to secure the release of Mr. Green, the archbishop said that Mr. Green was in prison for refusing to obey the law, and he did not see how such a case could injure the Church.

Mr. Green's counsel, Mr. Phillimore, published a statement in August respecting his client's position, representing that the court for contempt of which he was punished was one that had been set up by Parliament only, without the approval of the clergy in convocation, and in the absence of any body through which the laity could make themselves heard—a wholly secular, in no way spiritual authority, an authority of a kind which he could not conscientiously allow to control him in the exercise of a purely spiritual function. To comply with the terms named as the conditions on which he could be released, would be to give up his office and cease from ministering, at the command of this secular authority—a thing he could no more do than the ancient martyrs could abjure their religion to avoid death. The Archbishop of York wrote to Mr. Green in August, suggesting to him as a way in which he might obtain his release and perhaps save future deplorable embarrassment without making or causing any sacrifice of principles on either side, that he might write to his bishop and express his readiness to abide by his superior's advice in the matters about which the suit had arisen; adding that—

It might be that the advice given would be such that your undertaking to act upon it would give the court an opportunity of relieving you from your present position, and that a clergyman could never reproach himself for having done that which his very ordination vows made a duty.

Mr. Green replied that to act as the archbishop suggested would be to adopt precisely the course which he had rejected, he believed on good grounds, two years before, and the reasons now were as ten to one why he should not do so. To surrender in the way his Grace suggested—

Would be simply to surrender the Prayer-Book.

This, I conceive, no person whatever is entitled to demand of me. Besides, I have always understood that no bishop can make an order contrary to what is contained in that book. . . . Were I, your Grace, to surrender, or even seem to surrender, the great principles at stake, I should be for ever troubled with the curse of a guilty conscience.

The archbishop, publishing the result of this correspondence, expressed regret at the want of success of his attempt to secure Mr. Green's release, but did not think that the attempt had been wholly in vain, for it had proved to him, he said,

That the cell from which we should be glad to lead him (Mr. Green) forth is locked on the inside. Mr. Green will not accept the ruling of the archbishop's court, nor the opinion of the assembled bishops of the Anglican communion throughout the world, nor the resolutions of convocation, nor the determination of his own bishop, nor the invitation of the archbishop of the province. So long as this attitude is preserved, I do not see any further means that can be adopted to effect his much-desired release.

A systematic agitation was organized by the English Church Union, to be promoted by public meetings held under the direction of the district and branch unions, and the circulation of petitions for Mr. Green's unconditional release.

A general meeting under the direction of the English Church Union, appointed to be held in connection with the Church Congress, was held at Newcastle-on-Tyne, October 5th, Mr. C. L. Wood, president of the union, presiding. Addresses were made defining and defending the position of the union and of the friends of Mr. Green; and a letter was read from the imprisoned clergyman, in which he said:

If any one asked me why I was here, I should reply, "For the kingdom of Jesus Christ." It is the honor of the Church for which we have been content to strive, and, by God's help, hope to continue to strive as long as life shall last. The awful insult offered to the Church by the Public Worship Regulation Act is such as will not be endured by the humblest sect in the land. That a Parliament, not even professing to be Christian, should set up a court and prescribe rules for the worship and discipline of the Church of God, is going, to my mind, beyond the endurable.

Resolutions were adopted thanking Mr. Green for refusing to acknowledge the authority of the Privy Council and the courts subject to its jurisdiction in matters touching faith and worship; denying—while the duty of submission to the canonical orders of the bishop was recognized—the canonical authority of episcopal directions avowedly controlled by and based upon the decisions of the judicial committee as overriding the inherent discretion of the episcopate, and declaring that no change in the ecclesiastical courts could be acquiesced in which did not restore the final determination of spiritual matters to the bishops and synods.

A bill, called the Ecclesiastical Courts Regulation Bill, was introduced in the House of Lords, with especial reference to the case of Mr. Green. It proposed the amendment of the act of 1813 and of "Thorogood's act" of 1840,

providing for the release of a prisoner incarcerated under a writ *de contumace* at the expiration of six months, with the consent of the other parties to the suit, by omitting the proviso requiring the consent of the other parties. The Archbishop of Canterbury supported this bill on its second reading in August, but said there would be a difficulty in applying it satisfactorily, because it would be hard to keep a gentleman like Mr. Green from getting into prison again after he was discharged. The Lord Chancellor, remarking that Mr. Green was charged with no fewer than eleven acts of disobedience, said that in fact that gentleman would appear to be of the opinion that no obedience was due from him in matters of ceremonial to any decisions of the ecclesiastical courts. Under the bill now before their lordships, the person proceeded against might be imprisoned for six months over and over again until he ceased to be contumacious. That would require amendment.

A committee of ritualists, selected on account of the attention they had paid to the subject, held a series of conferences on the Prayer-Book and its rubrics, and for the discussion of ritual conformity during 1880 and 1881, and published its report in September, 1881. The promoters of this step admitted that it had become apparent that the ritualistic movement, in the absence of any system of rules, had resulted in the introduction of a great diversity of practice, and that some of the clergymen, in the excess of their zeal, had adopted usages which could not be justified by any reference to the Prayer-Book; and it was believed that if the whole subject were revised in a scholarly manner, and if what could be supported by appeal to the Prayer-Book were exactly defined, a standard of extreme ritual might be fixed, under which uniformity of practice would be promoted, the irritation and friction felt in the Church would be diminished, a fair trial of the Prayer-Book, as the ritualists understood it, would be had on its own merits, and the advance of liturgical revision would be sped. The report of the committee embodies the results of its inquiries into the true meaning of the rubrics, deals with cases where a conflict of rubrics exists, and decides in some instances that certain practices which have been insisted upon are not sustained with sufficient clearness, and ought to be abandoned or modified.

The English Church Union returned in its reports for 1880, 19,410 members, showing an increase during a year of 1,684 members; six new district unions and 264 new branches had been organized. The income of the union had been \$24,970. The report said, referring to the results of the prosecutions of clergymen for alleged illegal practices, "The apparent want of success which has attended the defensive efforts to maintain the civil rights of the persecuted clergy should not be regarded with feelings of despondency."

ANTHROPOLOGY. The discovery of stone implements in gravel-beds in the bluffs of the Delaware River, near Trenton, New Jersey, raised an interesting question as to the antiquity of man in America, since these gravel deposits were believed to have been formed by glacial action. The discovery of a few human bones in Pliocene deposits on the Pacific coast was the only evidence of the extreme antiquity of the human race upon this continent before the finding of these relics in the Trenton gravels, to which attention was first called by Dr. C. C. Abbott. The genuineness of those Pliocene remains is, however, anything but well established. The inter-glacial palæoliths of the Delaware Valley are rude celts of argillite. They differ distinctly from the implements left by the Indians here and in other parts of the country; yet nearer the surface, and occasionally upon the surface, in the same region they are found among flint weapons of the Indian type. Morgan and other American archæologists have concluded that the Indians reached the Atlantic coast from the interior, and that their original seats were near the Pacific. It must be inferred that they encountered and expelled another race, who had dwelt there since the formation of these gravel deposits. There is historical evidence of a race of different ethnological characteristics from the redmen inhabiting this part of the Atlantic seacoast in the sagas of the Icelandic colonists of Greenland, relating to their visits to Vinland in the eleventh century. The Skraelings, found by the Northmen in New England, have been identified by most certain indications in their descriptions with the Esquimaux race, and were called by the same name in the chronicles. The Northmen first met the Esquimaux low down on the Atlantic coast. Three centuries later they appeared in large numbers in Greenland, and the severe conflicts which took place between the colonists and these invaders were probably the reason why the Greenland settlements were finally abandoned. The migration of the Esquimaux to the northward, evidenced by these events, was doubtless caused by the pressure of the Indians behind them, who in more recent times have encroached upon the Esquimaux in British America.

Weapons of a ruder type than the flint, quartz, and jasper arrow and spear heads, of many different patterns, attributed to the Indians, have been found near the surface, not only in the Delaware Valley, but in New England and elsewhere in the Eastern States. They are always large, rudely-fashioned celts of nearly uniform pattern, much weather-worn, and made of argillite, thus corresponding in all particulars with the implements of the Trenton gravel-beds. These palæolithic weapons, even in the absence of historical evidence, could be attributed with good reason to the Esquimaux, as being the only race living in the earlier stone age found in an accessible region. They are

quite similar to implements still made by the Esquimaux.

There was less difficulty in connecting the Delaware flints with the Esquimaux race than in accepting them as evidence of glacial or pre-glacial man, though found buried in what was supposed on good evidence to be glacial drift. The special study of this formation made by Henry Carvill Lewis has led to conclusions which remove this difficulty. Mr. Lewis says that the implement-bearing gravel is the most recent formation except recent alluvium, and much later than the Philadelphia brick-clay and red gravels which were deposited at the melting of the great glacier. It extends up the valley of the Delaware to the Water-Gap, and is of fluvial origin, marking the former bed of the river. It bears marks of ice-action, which must be ascribed to a second (more recent) glacier, whose flood cut a channel through the deposits of the first glacial period. The date of this smaller glacier corresponded approximately to the Reindeer period of Europe. The implements found in this gravel, which is the most recent of nine gravel and clay deposits in the Delaware Valley, are unquestionably of the same age as the formation, indicating the existence of man at the time when the floods of the river covered this gravel, which is far above the present river-bed. This period Mr. Lewis proposes to call the Esquimaux period.

The recent measurements of African skulls by M. Hamy show that the races of that continent are not as universally dolichocephalous as has been supposed. He distinguishes between two distinct types of cranial formation in the negro races, and between forms within these ranging from the sub-brachycephalic through the mesocephalic and the sub-dolichocephalic to the true dolichocephalic. The dwarf race north of the equator, described by Schweinfurth and Miani (see AKKAS), has been studied by M. Hamy, who does not find their skulls less arched than those of the rest of mankind. Their stature is greater than that of the Bushmen, and is about the same average as the Andaman-Islanders. Their horizontal cephalic index approaches the true brachycephalous ratio. The Noubas, Fourahs, Gallas, and Niam-Niams, and the Haoussas, who dwell west of Lake Tchad, and are separated from the above peoples by a population craniologically distinct, he classes together in a single race.

Fossil evidence of the semi-human transitional stage in the development of the human species may be claimed to be afforded by a human jaw-bone found in the Schipka Cave in Moravia, with bones of the mammoth, and rude palæoliths. It is a fragment of the lower jaw, containing the incisors, an eye-tooth, and two premolars, with the last three back teeth just emerging from the bone. It is therefore a child's skull, in the stage of development belonging to the eighth year. Yet the size of the jaw and the teeth is that of an adult. The

lower part of the jaw recedes without forming a chin, and the hinder surface of the symphysis has a very oblique slope. These characteristics, approaching the type of the anthropoid apes, are exhibited in a much more marked manner than in any existing savage race, or in the fossils of men before discovered which show them, such as the jaw of Nanette.

A fortified camp has been discovered by the Abbé Ambrosio Sans in the Maestrazgo plateau in Spain, which bears every indication of having been constructed by a prehistoric people of the polished-stone age. It is situated in a group of hills. On one side the position is protected by a natural escarpment. Within the curved outer wall, which was built of stones without mortar, is a smaller wall, still intact, and heaps of stones, the ruins of dwellings. The habitations were oval, about 20 feet long by $6\frac{1}{2}$ feet in breadth, and were arranged in groups and in solitary positions, according to a definite plan. At the foot of the wall were found the remains of many animals, some of which belonged to extinct species. Outside of the inclosure were picked up polished celts of reddish-veined white quartz, lance-heads of blackish diorite, and other implements of the Neolithic age.

An ancient galley, discovered at Sandefjord, in Norway, throws light on the naval architecture of the Norse mariners a thousand years ago. It was the sepulchre of a viking, whose bones, with those of a little dog and some implements, were found inside, and the bones of horses and dogs sacrificed at the funeral round about; but the tomb had been plundered. The vessel was about 78 feet long, 17 feet in beam, and 5 feet 9 inches deep, and would probably draw less than four feet of water. The curves of the bent timbers seemed to be the natural growth of the trees. There were twenty ribs. The side-boards, of selected and well-seasoned oak, overlapped each other, and were fastened by iron rivets clinched on both sides. No evidences of the use of a saw were seen. The frame-timbers were fastened together with root withes. Bow and stern had the same shape. The rudder was on the starboard side, a foot or two from the stern. There was no deck. There were holes for 32 oars. These were 20 feet long. The finish and workmanship were careful and elaborate, and the plan of the hull was anything but primitive and rude, the lines being admirable for speed and for seaworthiness. The ship was covered by a burial-mound of blue clay, this material accounting for its excellent preservation.

APPLETON, JOHN ADAMS, was born in Boston, Massachusetts, January 9, 1817, and died at his residence, Clifton, Staten Island, July 13, 1881, in the sixty-fifth year of his age. Mr. Appleton was one of the firm of "D. Appleton & Company," a house well known for its steady progress and uniform success as publishers and importers of books. Mr. John A. Appleton, wherever he was known,

was highly respected and esteemed for his integrity and uprightness in all the walks of life. His time and attention were mainly devoted to the business upon which he entered as a young man, with his father and brothers; and in the prosecution of that business, upon sound and manly principles, he met with gratifying success. He acquired a large fortune, which he wisely used, not only for the benefit of his immediate family and friends, but also for the good of the community in which he lived, and especially for the cause of the church to which he was devotedly attached. About seven years ago, he was severely injured by being thrown from his carriage, and he never fully recovered from the shock thus given to his system. His last illness was aggravated by a complication of disorders, and he sank rapidly under the attack, passing away in the early morning of Wednesday, July 13th.

There were several points in Mr. Appleton's character which deserve to be noted. He was, first of all, a devout, consistent *Christian*—one who was neither ashamed nor afraid to acknowledge his faith and trust in his Saviour, and one who strove to remember always that he was a steward of God, placed in charge of large means and opportunities for promoting the spread of the Gospel and the happiness of his fellow-men. And he continued steadfast in this faith, and, when the summons came, he laid down the burden of life with firm, unwavering confidence in the mercy of our Heavenly Father in and through Christ Jesus our Lord. He was for many years senior warden of St. John's Church, Clifton, and was one of its largest benefactors. It may indeed be called his monument. A mural tablet has been erected in the church of his affections, commemorating his quiet life of faith and service as a Christian. It was done by the members of the church, his friends, and the *employés* in his business.

In admirable keeping with this inner life of faith, Mr. Appleton always proved himself to be a *gentleman* of the truest type. He was uniformly courteous and considerate toward others, never wounding the feelings of any one, however obscure or lowly his lot, and always ready with a pleasant word and kindly act. Though of a rather nervous temperament, and disliking everything of the nature of parade or show, he was fond of congenial society, and took delight in dispensing cordial and unostentatious hospitality at his beautiful residence in Staten Island. He was a lover of home and home pleasures, and, as he had been especially favored and happy in his marriage, he made his home the central point of quiet and peaceful enjoyment.

As a *business man*, Mr. Appleton was deservedly esteemed to be an honor to the name. He took his full share in upholding the high reputation which the house of D. Appleton & Co. has always sustained for integrity and fairness in their vast business transactions. He was

jealous for the good name of the house, and desirous, by every effort on his part, to extend its honorable usefulness. He was endeared to all with whom he was brought into close business relations, as touching evidence of which may be adduced the spontaneous gathering of the employés of the house, the day after his death, and the resolutions unanimously adopted at the meeting. Truly, in all the varied responsibilities of life, the passage of Holy Scripture selected as the text of an eloquent discourse preached at his funeral aptly describes Mr. Appleton's career: "The path of the just is as the shining light that shineth more and more unto the perfect day."

ARBITRATION. A decision of the Louisiana Court of Appeals embodies a totally different doctrine from that which has guided English courts, and American courts after them, for over two hundred years, relative to the obligation of merchants to submit to and abide by arbitration after agreement to do so. A contract for the sale of mules contained a stipulation that differences arising between the parties should be referred to arbitrators, one to be chosen by each party, and the two, on failing to agree, to fix upon an umpire. On the failure of the seller to deliver, the buyer brought suit in court. The selling party objected that the plaintiff had not offered to arbitrate, as the contract required. The suing party argued that a stipulation to arbitrate is revocable any time before award is made, and can not debar access to the civil courts. The court, acknowledging the weight of authority to conflict with the view taken, delivered the opinion that stipulations of this character, not being contrary to either law or to public policy, should not be considered less binding than other lawful contracts. Arbitrators are authorized by modern laws to take testimony under oath, and have accordingly the facilities for investigating simpler questions. When parties, knowing the full effect and circumstances of the agreement, have deliberately agreed to settle disputes by friendly reference, they should be left to the tribunal of their own election. The powers of arbitrators and the finality of the award have been considerably enhanced in New York and other States. Yet the liberty possessed by either party of withdrawing before the conclusion of the deliberations, discourages merchants from resorting to this mode of adjusting disputes in minor controversies, notwithstanding its preferableness to legal trial. In exchanges, boards of trade, and similar associations there usually resides efficient power to enforce a rule compelling members to submit their differences to the arbitrament of a committee, and the custom, thus made binding, is eminently satisfactory in its workings.

ARCHÆOLOGY. Important discoveries of antiques illustrating the civilizations of Egypt, ancient Chaldea, and Greece, have been exhumed and deposited in the British Museum, the Boulak Museum of the Khedive, and in the

Royal Museum at Berlin. The Egyptian discovery was the fruit of the efforts of Maspero, the new director of the Boulak Museum, and of his assistant, Brugsch, both renowned Egyptologists. It includes records which clear up a doubtful period of Pharaonic chronology. The discoveries in Mesopotamia were made by an agent of the British Museum, who has been engaged for years in this exploration, and who has now located cities more ancient than Babylon, and brought to light remains of the primeval Assyrian civilization. The Greek remains recovered embrace examples of classic art in its highest prime, and also an interesting work of a later age illustrating the aberrations of Greek genius in the decadence of taste. The excavation of these objects from the ruins of Olympia and Pergamon was conducted by commissioners of the German Government, which had appropriated a large subsidy for this purpose.

In Egypt an extraordinary treasure of sepulchral relics was brought to light in the summer of 1881, through the efforts of Professor Maspero. For many years curious antiquities have occasionally appeared in the markets, of a sort which led to the suspicion that the Arab traders had discovered a royal tomb, which they were secretly rifling. Upon deciphering a photographic copy of a ritual purchased by a traveler at Thebes, and discovering it to be the funeral papyrus of Pinotem I, Professor Maspero's suspicions were confirmed. Having been appointed the successor to Mariette Pasha as conservator of the Khedivial collections, he had the opportunity of inaugurating his official connection with an important discovery. Proceeding to Thebes, he arrested an Arab dealer in relics, one of three brothers who alone were in possession of the secret. This man, after many weeks of obstinate reticence, disclosed the situation of the treasure. The objects were then taken out by Emil Brugsch, and transported to Cairo. The place was not a tomb, but a cave which had been used as a hiding-place, to which the contents of royal sepulchres had been taken for safety. The removal took place, it is supposed, either at the time of the tomb robberies of the twentieth dynasty, or of the sacking of Thebes by the Assyrians. The mummies and grave-treasures were piled together in great confusion, and some of the identifications which were made on the strength of funereal inscriptions afterward appeared doubtful, as there were evidences that the place had already been ransacked.

There were taken out altogether some six thousand objects, including twenty-nine mummies of kings, queens, princes, and high-priests, five papyri, one of which is the funeral papyrus of Queen Makera, of the twentieth dynasty, and two plaques of the kind which Professor Maspero has before described from specimens which must have come from the same place. The mummy-cases, which were all contained in a chamber twenty-three feet by thirteen, had

been opened by Arabs, and into some the wrong mummy had been returned, as the names on the bandages did not correspond to those upon the cases. The mummies of people of the eighteenth and nineteenth dynasties appear to have been removed to this place of safety from their graves in the Valley of the Tombs during the reign of the first priest-king, Her-Hor. And afterward, perhaps on account of its secrecy, the vault was used as a burial-place for succeeding princes.

The depredations committed among these coffins have been considerable, and much of the difficulty in identifying the bodies is owing to the abstractions and displacements. The funeral papyrus of Queen Not-em-maut was purchased several years ago by the Prince of Wales, who deposited it in the British Museum. The funeral papyrus of Neb-seni, one of the dignitaries whose coffins were found, has also been for some time in the British Museum. Many statuettes, inscribed tablets, scarabæi, mummies, etc., have been sold to travelers of late years, which were undoubtedly taken from this place by the Arabs, who have known the secret of the chamber for probably twenty-two years.

Of the twenty-nine mummies recovered, seven are those of kings, nine of queens and princesses, and five of personages of distinction. The hiding-place was situated behind an angle of a cliff a little way from Deir-el-Bahari, near Thebes, southwest of the village. The entrance to the chamber in which they were concealed was by a perpendicular shaft, 12 metres deep, whose mouth was 60 metres above the plain. From the bottom of the pit a gallery, 74 metres in length, conducted to the chamber, whose dimensions were 7 metres by 4. A hint of the causes which led to the deposit of the bodies in this secret place is probably given in hieratic inscriptions on the mummy-cases of Leti I and Rameses XII, which stated that their remains had been placed for safety in the tomb of Queen Ansera. The mummy of this queen was found in the vault, though not in her own mummy case, but that of Rai, the nurse of Queen Ahmes-Nofertari.

Among the mummies were identified those of a Raskenen, one of the last kings of the seventeenth dynasty; of King Ahmes I, the founder of the eighteenth dynasty, and of Ahmes-Nofertari, his queen; Queen Arhotep and Princess Sat Ammon, his daughters, and Prince Sa Ammon, his son; of Amenhotep I, the second king of this dynasty; the mummy-cases of Thothmes I and Thothmes II, succeeding monarchs; the mummy-case, and perhaps the mummy, of Thothmes III, or the Great; mummies of Queens Hont-ta-me-hou, An, Set-ka, and Princess Mes-sont-ta-me-hou, all of the eighteenth dynasty; the mummy of Rameses I, the founder of the nineteenth dynasty; of King Seti I, his successor; the supposed mummy of Rameses II, or the Great, the third king of this dynasty, and the Pharaoh of the

Jewish captivity, but which Professor Maspero afterward concluded to be that of Rameses XII, of the twentieth dynasty; of Queen Not-em-maut, wife of Her-Hor, the first priest-king; of the high-priest Pinotem; of Queen Ramaka and her infant daughter Mout-em-hat, of the twenty-first dynasty; of King Pinotem II, the third of this dynasty, and of Queen Hon-ta-taoni, his daughter, Queen Ast-em-jeb and Princess Nessi-kon-sou, other daughters, Prince Jcp-ta-a-ouf-anch, high-priest of Ammon Ra, his son, and the high-priest Mas-sa-ha-ta, another son or near relative.

The assemblage of mummies of different periods in this place was owing, according to the conjectures of Maspero, originally to the tomb-robberies of the reign of Rameses IX. The tomb of Amenhotep I was one of those which the robbers attempted to break into. It was probably in the midst of the necropolis at Koorneh. Several mummies were missing probably at the time of the removal. The tomb of Queen Mashont-ti-moo-hoo had been pillaged, and apparently those of Thothmes III, Rameses I, Seti I, and others. Contemporary mummies of the family of the twentieth dynasty were deposited in the same place for safety on account of the unsettled state of the country, owing to insurrections and the establishment of the rival dynasty at Tanis. This twenty-first dynasty could not have succeeded Her-Hor, but reigned contemporaneously with the priest-kings whose names are preserved in this cavern. These descendants of Her-Hor were as follows: High-Priest Piankhi; High-Priest Pinotem I; Pinotem II; his sons, King Menkheperra and High-Priest Mahasirti; and King Pinotem, whose wife, Makeri, was daughter of the contemporary King of Tanis. The rival dynasties were both supplanted after the death of Makeri by Sheshouk, the head of a Semitic family in Lower Egypt, who founded the Bubastite dynasty.

Assyriologists have for some time expected that in the ruined cities of Babylonia more ancient versions of the Assyrian text than the cuneiform inscriptions already recovered would yet be brought to light. In 1880 Hormuzd Rassam found a fragment of a tablet relating to the Deluge in the ruins of one of the temple libraries of Babylon. Through the seasons of 1880 and 1881 the same explorer has industriously examined the sites of the Chaldean cities of Babylon, Borsippa, Sippara, and Cutha, and has unearthed a large number of religious texts and records.

Since the large discovery of inscribed tablets made by Arabs in 1874, there have been innumerable relics and inscriptions exhumed in Babylon. The same spot has been explored by Rassam. It was the center of commercial life in ancient Babylon, being the court of a family named Beni Egibi, who seem to have been financial agents of the government. The tax-receipts found here reveal the fact that the taxes for the maintenance of the irrigation

canals and the highways were raised by duties on the land, the date and corn crops, and on cattle. There were large quantities of temple lands held in mortmain, like the mosque property in the Turkish Empire. From the palaces of Babylon Rassam has recovered records which cover the period from the reign of Nabonidus to the capture of the city by Cyrus.

Babylon was built almost entirely of brick. Chambers and corridors of the Palace of the Kings, with decorations of plaster and painted bricks, were found. Extensive hydraulic works, consisting of wells and conduits connected with the river, seem to indicate the locality of the hanging gardens. One of the kings, according to a discovered document, had sixty gardens or paradises made for him near the city. The ruins of the traditional site of the Tower of Babel are probably the seven-story tower of the Temple of Nebo.

Rassam has identified and explored the sites of two cities of higher antiquity than Babylon. These are Sippara, the city of the Sun-god, which was, according to Berosus, more ancient than Ur, having been founded before the flood, and Cutha, one of the great temple-cities of Babylonia. The modern name of the site of Sippara is Abbu Hubba. The mounds cover an area of over two miles in circumference. The buildings were placed with their angles to the cardinal points of the compass. The southwest wall of an immense building was first uncovered. It was fifteen hundred feet long, and broken at regular intervals by projecting buttresses, which were ornamented by grooved panels. The edifice consisted of many long, narrow rooms, with exceedingly thick walls, arranged around a central court. This building was the Temple of the Sun-god. In a large gallery were the remains of the sacrificial altar, nearly thirty feet square; and in a connecting chamber were the records of the temple. One of the records is a votive tablet commemorating the victory of the Babylonian king Nabupallidina over the Sutu tribe of Elamites, and dating from about the year 852 B. C. It contains a figure in relief of the god and of the king and priests performing worship. It was the cult of the solar disk and rays, a form of which was introduced into Egypt in the eighteenth dynasty. A list of the six solar festivals is inscribed, two of them corresponding to the spring and autumn equinoxes. Sheep, oxen, rams, and fruits of the earth are mentioned as the sacrificial offerings, as in the Bible. This most ancient of the cities of Mesopotamia, and a neighboring place, whose ruins yielded records of minor importance, are in all probability identical with the cities of Sepharvaim mentioned in 2 Kings, xvii, 24-31, in connection with Cutha, whose site was also identified and partially explored by Rassam. The British Museum, which receives the objects recovered by Rassam, already contains over three thousand of these tablets of the earlier period, including the large collection

secured from the Arabs by the late George Smith.

The excavations at Olympia, which have been prosecuted since 1875 with means furnished by the German Government, have revealed the whole plan of this most interesting city, which remained for many centuries the center of Hellenic civilization and the scene of the national festivals. The walled inclosure called the Sacred Grove, in which were the Temple of Zeus and the other shrines and sanctuaries and the official buildings connected with the Olympic games, was about four thousand feet long, and extended back from the river to the foot of the mountain about two thousand feet. The Temple of Zeus was a simpler, more massive and more imposing edifice than the Parthenon, built in a purer Doric style. The group of twenty-one colossal figures by Paionios, representing the battle between Oinomaos and Pelops, with Zeus as arbiter in the middle, which adorned the eastern pediment, have all been recovered in various states of preservation. Statues of the river-gods Alpheios and Kladeos flanked the pediment. The western pediment contained a group by Alkmenes representing a contest at the wedding of Peirithoös arrested by the intervention of the young Apollo, showing drunken Centaurs carrying off the women and Hellenes coming to the rescue, with weeping female slaves on the ground. This composition consists likewise of twenty-one figures, of thirteen of which the heads remain. At both ends of the temple are sculptures in high relief representing the labors of Herakles. They are pronounced by Curtius to belong to the same school of sculpture as the pediments. The pediments can be intelligibly reconstructed, and surpass any pediments before known. Curtius assigns the sculptures of the temple to the school of Kalamis, which immediately preceded the highest development of Attic art in the age of Phidias. In the representation of Apollo the conventional traditions were adhered to, while in the forms of the men and Centaurs complete freedom was exercised. The Heraion, which comes next in size to the Temple of Zeus, dates from an earlier period. It illustrates the growth of a Greek temple, which was originally a temporary wooden structure for the reception of votive offerings, but was gradually built up by the replacement of one group after another of the wooden pillars by stone columns. The ground-plan of another temple surrounded by pillars has also been discovered. It is the Metroön, or sanctuary of the mother of the gods. The treasuries have been exposed to view in the northern part of the Altis, or sacred inclosure. They resemble temples, and stand in a row. The two largest, the thesauri of the Syracusans and of the Megareans, have been identified. The latter contains sculptures representing the war of the giants, of an age preceding the Æginetæ. One of the most interesting monuments of the

classic period is the colossal figure of Nike, by Paionios. The round temple built by Philip of Macedon after the battle of Chæronea stands in a fair state of preservation to the west of the Heraion. Structures of the Roman period are rotundas, water-works, etc., erected by Antoninus Pius and Herodes Atticus. The Pelopion, or precinct for the worship of the hero Pelops, was marked by no structure except an entrance-hall at one end. The altar of Zeus, an elliptical ring of rough stones, occupied the very center of the Altis. In the soil around the altar quantities of votive offerings in bronze and terra-cotta were found. The Prytaneion, containing the altar of Hestia and the banqueting-hall in which the Olympic victors were feasted, stood at the northwest corner of the Altis. Between the buildings the open spaces were filled with statues, the votive gifts of cities and individuals, and also statues of the victors in the Olympian contests. But few of these remain.

Outside of the Altis the stadiums, leading to the course of the runners, stood on the east. The starting-place and goal are still in position. All the other contests took place here, except the chariot-races in the Hippodrome, of which no vestiges remain. An edifice consisting of a quadrangular court, approached by two colonnades, dates from about the same period as the Temple of Zeus. It is supposed to have been the meeting-place of the Olympic Council. A series of fine buildings stood between the Kladeos and the Altis on the west. A circular building contained an altar with inscriptions to "the hero," referring, undoubtedly, to Ianos, and afterward Klytias, founders of the priestly families of diviners which first gave to Olympia its importance. A group of dwellings near by were probably the homes of the priests, and the building whose site was taken for the Byzantine church must have been the assembly-hall of the priestly functionaries. To the north were the Palæstra or practice-court for the wrestlers, and the halls where the rhetorical declamations were delivered. East of the Byzantine church was the court, surrounded by columns, which is called the Grand Gymnasium. This was probably the largest and most splendid building in Olympia.

There have been more than four hundred inscriptions found. Many of them have reference to the visitors at the games, and afford much information regarding the different games.

The German explorers have also exhumed important remains of the Aeropolis at Pergamon, a city of great splendor in post-Alexandrian times. The sculptured ornaments of the great altar, mentioned by ancient writers, have been recovered in a good state of preservation. The principal frieze represents the battle of the gods and giants. This work dates from about 200 B. C., the period of the inroads of the Gallic barbarians. The figures are of heroic size, and executed in a free and bold style. The gods are dignified and graceful in attitude and pro-

portions. In picturing the giants the artist gave free play to an exuberant fancy. Some of them are fine types of manly strength and beauty; others fantastic mixtures of human and monstrous forms; some with legs prolonged into serpents; many with one or two pairs of wings; one with a lion's head and mane; one with the horns and ears of a Triton, and one with the shoulders and hump of a buffalo. Zeus is represented engaged with many foes at once—his serpent seizing the heads of two of the hideous serpent-legs, and his ægis held aloft in his extended right hand. Athene with the gorgoneion on her breast is dragging a winged youthful giant by the hair. Hecate is a singular conception, having three heads and trunks and six arms. Apollo and Dionysos are forms of great beauty. A lovely female figure, engaged in hurling a vase encircled with serpents at a giant, has puzzled all archæologists. Cybele, riding upon her lion, is armed with a bow. Of the frieze, ninety-four slabs, about three fifths of the whole, have been excavated and sent to Berlin, and with them thirty-four slabs of the smaller frieze, representing scenes from the legend of Telephus; and numerous inscriptions, statues, and other relics.

ARGENTINE REPUBLIC (REPÚBLICA ARGENTINA). "Our relations with foreign powers will be zealously maintained and fostered by my Government, care being taken to augment and strengthen the bonds of union between this republic and the most advanced nations. It will be my special endeavor to preserve harmony with our neighbors, while strictly abstaining from interference in their internal concerns. *And as for those with whom, in relation to boundaries, we have difficulties still pending, I shall seek to solve these in a manner worthy of all concerned, without yielding one iota where I understand the dignity, rights, or integrity of the republic to be affected.*" These words, quoted from President Roca's inaugural speech to the Argentine Congress, were spoken on October 12, 1880. Just one year later were exchanged the following notes between the United States Minister at Buenos Ayres and the Argentine Minister of Foreign Affairs:

UNITED STATES LEGATION, *October 22d*, 11.30 P. M.

MY DEAR MINISTER: Allow me to offer you my most cordial and sincere congratulations on the final approbation, by the representatives of both countries, of the treaty which is the crowning and most glorious work of your life. It is said that republics do not know the meaning of the word gratitude. It may be so; but henceforward the two nations can never forget or cease to feel grateful for what you have done for them in one year of patient work and careful thought. Be assured that my Government and the people of the United States will speedily indorse this well-merited recognition of the honor due to you for the glorious peace and prosperity that must inevitably result from your great achievement. I shall take the earliest opportunity of calling on you in person to present my respects and renew my congratulations.

Your very sincere friend, THOMAS O. OSBORN.

Buenos Ayres, *October 22d*.

MY DEAR MINISTER: A thousand thanks for the very kind note you have sent me. I prize it extremely,

and will always keep it as a proof of your friendship. The cordial feelings you express for myself, and the kind view you take of the part I have had in arranging the boundary treaty with Chili, are highly flattering to me. If the treaty of July 23d assure peace and reknit the bonds that have bound both nations together since they achieved their independence, as I firmly believe it will, very much of such a happy consummation for the civilization and progress of this part of America will be due to you. We have both contributed something to the work you so justly call good—I by carrying out the instruction of the President, and you by so worthily interpreting the policy of the Government of the United States. I am already rewarded by the approval of my Government, my countrymen, and public opinion in general. As for you, my highly esteemed friend, it is a source of extreme pleasure to me that your honored name is linked with the international deed of July which restores peace between two peoples who are alike neighbors and brothers. Your most sincere friend,
BERNARDO DE IRIGOYEN.

Here follows the translation of the text of the treaty of limits between the two countries:

In the name of Almighty God. The Governments of the Argentine Republic and of the Republic of Chili, being desirous of effecting a friendly and honorable settlement of the dispute between their countries, and in pursuance of the treaty of April, 1856, have decided to make a treaty of boundaries; and to that end have appointed the following plenipotentiaries, namely, by his Excellency the President of the Argentine Republic, Dr. Bernardo de Irigoyen, Minister of Foreign Affairs; and by his Excellency the President of Chili, Don Francisco de B. Echeverria, Consul-General in the Argentine Republic; who, having duly presented their credentials, and found the powers respectively conferred upon them sufficient, have agreed as follows:

ARTICLE I. The limits between Chili and the Argentine Republic are from north to south, as far as the fifty-second degree of south latitude, the Cordillera of the Andes, the dividing line being that extending over the loftiest summits of the said Cordillera and separating the water-sheds of either side. All questions arising as to the limits in valleys, or where the peculiar features of the Cordillera render the determination of the dividing line of the water-sheds difficult, shall be submitted to two arbitrators, a third to be appointed should such two fail to agree; and the decision of the arbitrators, when drawn up in the form of a public instrument and duly signed by them, shall be accepted as final by both Governments. The present treaty shall go into effect upon the day on which it is signed, and shall thenceforth be regarded as binding and valid, and waiving any further formalities or negotiations; and a copy thereof shall be given to each of the two Governments.

ART. II. In the southern part of the continent and north of the Straits, the boundary between the two countries shall be a line extending from Point Dungeness along the land to Mount Dinero; thence westward over the highest points of the mountain-chain of that region to Mount Aymoud; thence to the point of intersection of the 70th meridian and the 52d parallel of south latitude; and thence westward along that parallel to the dividing line of the water-sheds of the Andes. The regions lying north of said lines shall belong to the Argentine Republic; and those south of said lines to Chili, save as stipulated in Article III, concerning Tierra del Fuego and the adjacent islands.

ART. III. In Tierra del Fuego a line shall be drawn from Cape Espiritu Santo, in latitude 52° 40', and, coinciding with the meridian of longitude west from Greenwich, 68° 34', extended south to Beagle Channel. Tierra del Fuego being thus divided, the western portion shall be Chilian, and the eastern Argentine. Concerning the islands, the following shall belong to the Argentine Republic: those of Los Es-

tados and the islands in proximity thereto, and, in the Atlantic, those lying east of Tierra del Fuego and of the eastern shores of Patagonia; and to Chili shall belong the islands lying south of Beagle Channel, and all those west of Tierra del Fuego to Cape Horn.

ART. IV. The arbitrators mentioned in Article I shall in like manner fix the limits referred to in Articles II and III.

ART. V. The Straits of Magellan shall be neutral for ever,* and the navigation thereof free to all nations; and, for the better securing said freedom and neutrality, no fortification or military defense shall be constructed there.

ART. VI. The Chilian and Argentine Governments shall exercise full sovereignty forever over the regions to them respectively appertaining under this treaty; and should any question unhappily arise between the two countries, whether in virtue of this treaty or from any other cause, such question shall be submitted to the arbitration of a friendly power; but the limits defined in this treaty can in no event be disturbed.

ART. VII. The ratifications of this treaty shall be exchanged within sixty days, or sooner if possible, and the exchange be effected either in the city of Buenos Ayres or the city of Santiago.

In witness whereof the plenipotentiaries of the Argentine Republic and of the Republic of Chili have affixed their hands and seals to this present treaty, in duplicate, in the city of Buenos Ayres, on the twenty-third day of October, in the year of our Lord one thousand eight hundred and eighty-one.

(Signed) BERNARDO DE IRIGOYEN,
FRANCISCO DE B. ECHEVERRÍA.

For statistics relating to area, territorial division, population, etc., reference may be made to the "Annual Cyclopædia" for 1872, 1877, and 1878. The population of the republic, which was set down at 2,250,000 in 1878, is now estimated at not less than 2,400,000, and consequently presents a rate of increase hitherto unparalleled elsewhere in South America.

In Dr. Coni's demographic bulletin, under date of July 31, 1881, the population of the capital, Buenos Ayres, was estimated at 278,603.

The number of immigrants in 1870 was 39,667; in 1871, 20,928; in 1872, 37,037; in 1873, 76,332; in 1874, 68,277; in 1875, 42,066; in 1876, 30,965; in 1877, 28,798; in 1878, 35,876; in 1879, 50,205; in 1880, 41,615.

The following table exhibits the nationality and number of the immigrants who landed at Buenos Ayres in 1879 and 1880:

NATIONALITIES.	1879.	1880.
Italians.....	22,774	18,416
Spaniards.....	8,422	3,112
French.....	2,149	2,175
English.....	753	588
Swiss.....	717	581
Germans.....	490	445
Austrians.....	1,760	879
Portuguese.....	28	34
Belgians.....	78	57
Danes.....	47	54
Dutch.....	7	..
Russians.....	15	8
Greeks and Turks.....	17	11
Americans.....	51	21
Various.....	364	292
Total.....	32,702	26,643

* This neutrality clause was suggested and urged by the United States minister.



The President of the Republic is Brigadier-General Don Julio A. Roca (inaugurated October 12, 1880), and the Vice-President, Don Francisco B. Madero. The Cabinet was composed of the following ministers: Interior, Dr. A. del Viso; Foreign Affairs, Dr. Bernardo de Irigoyen; Finance, Dr. Juan José Romero; Justice, Public Worship, and Public Instruction, Dr. M. D. Pizarro; War and the Navy, Dr. B. Victorica.

The Argentine Envoy Extraordinary and Minister Plenipotentiary to the United States and Great Britain is Dr. Manuel R. Garcia. The Argentine *chargé d'affaires* in the United States, during the absence of the Minister, is

* Resignation tendered in November, owing to disagreement with President Roca, but not accepted.

Señor Don Julio Carrié. The Consul-General (at New York) for the American Union is Señor Don Carlos Carranza. The Governors of the several provinces, etc., were:

- | | |
|-------------------------------|-----------------------|
| Buenos Ayres..... | Dr. D. Rosa. |
| Minister of the Interior..... | Dr. Carlos A. D'Amico |
| Minister of Finance..... | Dr. Mariano Demaría, |
| | 1880. |
| Catamarca..... | M. J. Rodríguez. |
| Córdoba..... | M. Juárez Celman. |
| Corrientes..... | Dr. A. B. Gallino. |
| Entre-Ríos..... | Colonel J. Antelo. |
| Jujuy..... | Bustamante. |
| La Rioja..... | N. Bustos. |
| Mendoza..... | E. Villanueva. |
| Salta..... | Dr. M. Oliva. |
| San Juan..... | A. Gil. |
| San Luis..... | Z. Concha. |
| Santa Fé..... | S. de Iriondo. |
| Santiago del Estero..... | J. Gallo. |
| Tucuman..... | J. M. Nouges. |
| Gran Chaco Territory..... | Colonel F. Bosch. |
| Patagonia..... | Colonel A. Barros. |

The United States Minister resident is General Thomas O. Osborn.

The Argentine army comprised, exclusive of the National Guard, 7,203 men, as follows: 3,865 foot; horse, 2,574; artillery, 764. There were 5 generals of brigade, 14 colonels-major, 26 colonels, 126 lieutenant-colonels, 131 sergeant-majors, and 568 officers of other grades.

The navy, in August, 1881, was composed of 27 vessels: 2 steam ironclads, 6 gunboats, 2 steam torpedoes, 12 steamers transformed into war-vessels, 3 transports, and 2 sail of the line, with an aggregate tonnage of 12,000, an armament of 88 guns, and manned with 2 chiefs of squadron, 5 colonels, 8 lieutenant-colonels, 6 majors, 7 captains, 26 lieutenants, 22 students, 43 midshipmen, 7 pay-masters, 26 engineers, 900 seamen, including officers, 200 infantry and artillery (National Guard), 1 torpedo section comprising 3 commandants, 8 subaltern officers, and 80 privates. Before the end of the year, however, the number of vessels was increased by the addition of a new ironclad, the Almirante Brown, armed with six 40-pounder breech-loading guns, of new model, on automatic carriages; eight 8-inch 11½-ton breech-loading Armstrong guns, also of new model, firing projectiles of 180 pounds weight, with 90 battering charges, and a number of smaller guns. The 8-inch guns, so mounted that two can be fired straight ahead and three on each broadside, are described as surpassing in range all the guns hitherto mounted in the British navy, and inferior to only a few in penetrative power. There is a naval school and a school for cabin-boys, and at Zárate there is an arsenal.

The national revenue and expenditure for the fiscal year 1879-'80 has been officially reported as follows:

REVENUE.	
Import duties.....	\$12,844,738
Export duties.....	2,887,363
Warehouse fees.....	832,135
Stamped paper, etc.....	512,394
Post-Office.....	347,481
Telegraphs.....	95,285
Light-houses, etc.....	34,884
Railways.....	504,642
Sundries.....	8,904,618
Total.....	\$21,463,040
EXPENDITURE.	
Ministry of the Interior.....	\$2,305,293
“ of Foreign Affairs.....	62,040
“ of Finance.....	7,512,412
“ of Justice, Public Worship, Public In- struction, etc.....	1,051,090
“ of War and the Navy.....	3,924,957
Sundries (including salaries, etc.).....	1,989,543
Total ordinary expenditure.....	\$16,845,335
To which are to be added:	
Expenditure extraordinary.....	\$425,181
Matured debts from 1877.....	606,071
Matured debts from 1878.....	7,599,991
Grand total.....	\$25,476,578

The following are among the more important items of expenditure comprised in the latter table:

Salaries.....	\$1,068,720
Post-Office and telegraphs.....	539,778
Bridges and highways.....	21,882
Subsidies to provincial governments.....	52,488
Immigration.....	187,718
Diplomatic service.....	62,040
Legislature.....	502,398
Public Instruction.....	732,477
Justice.....	165,256
Public Worship.....	153,357
Army.....	3,374,518
Navy.....	550,349
Agriculture.....	8,820
Railways.....	282,939
National Observatory.....	24,464
Public Works.....	64,552
Railway guarantees.....	223,605
Rio Negro Expedition.....	396,654
Interest and sinking fund of consolidated national debt.....	7,512,412

The following tables exhibit the estimated revenue and expenditure for 1881:

REVENUE.	
Import duties.....	\$13,500,000
Export duties.....	3,000,000
Warehouse fees.....	350,000
Stamped paper, etc.....	650,000
Post-Office and telegraphs.....	452,000
Light-houses, etc.....	38,000
Railways.....	700,000
Interest.....	164,777
Wharfage.....	14,000
Forests.....	30,000
Sundries.....	1,000,000
Total.....	\$19,898,777
EXPENDITURE.	
Ministry of the Interior.....	\$3,262,413
“ of Foreign Affairs.....	139,920
“ of Finance.....	9,576,646
“ of Justice, Public Worship, Public In- struction, etc.....	1,375,072
“ of War and the Navy.....	5,482,450
Total.....	\$19,886,501

Almost every item of the foregoing tables is indicative of continued financial prosperity. In the first place, the relatively small deficit observed on comparing the total revenue and the total expenditure for 1879-'80, and which would in all likelihood be covered by the revenue derived from the capital, is the more striking as the Treasury was called upon in that year to meet extraordinary obligations amounting to \$8,631,243. Then the yield of the custom-house department was \$15,732,101, against \$13,150,824 for the year immediately preceding, thus showing an increase of \$2,581,277, or little less than one half of the entire national revenue of the United States of Colombia, although the population of this latter country exceeds that of the Argentine Republic by more than 500,000. And again, in the budget for 1881, the proposed appropriation for public instruction was set down at \$941,496, while the actual outlay upon that important branch of the public service was but \$732,477 in 1880, almost a quarter of a million less. In August last, the minister laid before Congress his budget for 1882, in which he estimates the customs receipts at \$18,785,000, including an additional duty of one per cent on all imports and exports already subject to duty. We subjoin the schedules of this latest budget, in which the revenue presents an estimated total of \$24,632,000, and some sources of rev-

cnuc are enumerated that are not separately expressed in any of the tables heretofore given, while a small surplus appears in place of a deficit:

REVENUE.	
Imports.....	\$13,850,000
Imports additional.....	680,000
Exports.....	3,360,000
Exports additional.....	595,000
Warehouse fees.....	380,000
Stamped paper.....	1,250,000
Licenses.....	600,000
Direct imports, deducting 40 per cent for education.....	720,000
Post-Office.....	500,000
Telegraphs.....	250,000
Light-houses.....	40,000
Health inspection.....	14,000
Woods and forests.....	80,000
Judicial auctions.....	40,000
Judicial deposits.....	100,000
Water-works.....	200,000
Notaries.....	12,000
Interest on Eastern Argentine Railroad shares..	116,000
Interest on state lines.....	755,000
Guano.....	10,000
Sundries.....	800,000
Total..	\$24,632,000

EXPENDITURE.	
Ministry of the Interior.....	\$3,996,772
“ of Foreign Affairs.....	158,250
“ of Finance.....	12,074,402
“ of Justice, Public Worship, and Public Instruction.....	1,952,584
“ of War and the Navy.....	6,435,996
Total.....	\$24,618,034

The funded national debt of the Argentine Republic was reported in November, 1881, at \$107,982,592, and those of the provinces at \$29,689,047, constituting a total funded debt of \$137,681,639, or \$57 per capita approximately. The foreign debt comprises \$82,365,930 national, and \$2,611,320 provincial (exclusive of the Buenos Ayres debt assumed by the nation). It is proper here to transcribe the following extract from President Roeca's special message to Congress, under date of September 23, 1881, on the subject of the so-called \$100,000,000 loan for the conversion of those debts. The total amount proposed to be converted is \$76,588,323, and the effect of the scheme would be to reduce the present annual service (interest and amortization) from \$8,570,432 to \$5,414,187.

TO THE CONGRESS OF THE NATION: If it was in earlier days necessary to discuss the prerogative which a nation enjoys of paying off its debts at any moment, that right is now, at least, an undisputed fact. The most advanced nations of Europe and the United States of America have exercised it amply, when compatible with the situation and public interests of the country. The question of convenience is evident, since with a lesser sum the state can meet its obligations to its creditors, and is enabled at the same time to attend to the usual public service, under a reduced system of taxation in the country, or place a larger capital to increase the wealth, comfort, and development of the nation. The opportune moment to realize these operations depends on a combination of many circumstances and complicated elements, not easily defined and specified, but which show in their results, by the improved credit of the state and the facilities for solving financial problems, that the opportunity has arrived to effect the vast operation of consolidation of the debt, in order to make it less onerous and more reliable for the sake of the creditor. I believe that this moment has come for our country, and every day

it is being more felt, and I therefore hope that the appended bill will meet with your approbation. Allow me to present to you a statement of the home and foreign debt of the nation, that you may with all accuracy appreciate the bill which I have framed on the subject. The following table shows how the public debt will stand on the 31st of December of the present year, and also the different dates when the several emissions will be extinguished, should their present service be continued:

FOREIGN DEBT.	Total.	Extinguished in—
English loan, 1824: Original bonds. } Deferred bonds. }	£123,515	{ 1896 1890
English loan, 1868.....	214,500	1887
English loan, 1871.....	525,134	1890
Provincial loan, 1870.....	73,279	1903
Provincial loan, 1873.....	144,553	1906
Railway loan.....	173,540	1914
Total.....	£1,254,821*	

INTERNAL DEBT.	Total.	Extinguished in—
National public funds, law of November 16, 1863.....	\$1,130,028 48	....
National public funds, law of October 1, 1860.....	239,999 99	1882
National public funds, law of October 21, 1876.....	34,788 00	1910
Bridges and road stock.....	130,720 00	1895
Debt to foreigners.....	\$1,343 00	1897
Treasury bills.....	649,703 00	1902
Treasury bills.....	130,000 00	1906
Provincial public funds.....	50,328 00	1894
Total.....	\$8,570,432 53	

The national bonds of the law of November 16, 1863, will be extinguished:

First series.....	\$5,000,000 in 1891
Second series.....	5,100,000 " 1913
Third series.....	6,143,264 " 1949

In this table are not included the emission of \$1,-420,060 (law of the 5th of November, 1872), to pay the shares of the National Bank subscribed by the Government, nor the \$16,000,000 lately created by Congress to close the account of the nation with the Provincial Bank. The special object of each of these laws, and the special conditions of the issuing of the loans, besides their bearing 5 per cent interest, render it unnecessary to take the same into consideration. I also consider that they should not be included in the conversion, and therefore they do not appear in Article III of the project, neither do the deferred three per cent bonds created to pay overdue interest on the 1824 loan, nor the home debt created by the law of 1st of October, 1860. The relatively low interest of those bonds renders any explanation unnecessary in reference to them; and, as the last will be all paid off by amortization before the end of next year, I have deemed it unnecessary to include them, the more so as their amount is now comparatively insignificant. Thus, the total amount of home and foreign debts is to be converted into 76,588,323 hard dollars. If all the bondholders accept the equitable and even advantageous terms of conversion offered to them, should you pass the project, the result will be as follows: The interest and amortization on the public debt, which now cost \$8,570,432, will be reduced to \$5,414,187, and this will be further reduced by \$239,999 before the end of 1882; and, in 1890, when the deferred bonds of the 1824 loan will be paid off, the total service of the debts will be an annual saving of \$748,041

* Reduced to dollars at the rate of 4.88 per pound sterling, 6,123,526.48 hard dollars.

in interest and \$2,396,242 in amortization. This reduction will, I consider, compensate for the advantages offered to the bondholders, who, on the other hand, in addition to the premiums, will have the security that their bonds can not be converted for ten years, excepting so far as 1 per cent yearly amortization, established by Article I, goes. If, however (but that is not probable), holders refuse to convert voluntarily, there is nothing for it but to pay them off in cash, at par; and, in this case, I think the new 5 per cent bonds can be negotiated at a price that will give the same results as the voluntary conversion offered to the present bondholders. The operation can be carried out in a lump, or successively, as may suit the interests of the state; and if, by some inconceivable error, the bondholders totally or partly refuse to convert voluntarily, in a very short time the increase of public and private wealth, and the elements at the disposal of the nation, will show that the country has sufficient means wherewith to amortize, in a short time, at least the most onerous of its debts. The credit of the country at home and abroad is rapidly reaching the level it has a right to. Our debts religiously paid even in the midst of the greatest difficulties, brought on by our political errors and the effect of a commercial crisis, have gained confidence for us at home and abroad, and consequently our credit is improved and increased.

JULIO A. ROCA.

JUAN JOSÉ ROMERO.

It was regarded as probable that the project would be passed, there being a majority in its favor in both Houses. Another important bill brought during the session was one for the abolition of forced inconvertible paper money, and the success of which was looked forward to as all but certain; indeed, the sanguine went so far as to predict the return to specie payments by the end of the year.

"We are in the habit," writes a British financier, "of saying the number of paper dollars to the pound has fallen 10, from 149, at which they were this time last year, to 139; but a telegram has been received this week informing us that they have very recently descended to 127, or only 5 above par, the par value of the paper dollars being 122 to the pound. We have long said that paper and gold in the Argentine country would come to a level, as they have in the United States. Paper has now arrived at that standard, saving 5 dollars on 122. The fact is most important to the railway and tramway interests of that country. It is also important to the country itself, and its creditors. It affords a perfect assurance, if any were wanted, of the perfect good faith of the Argentines toward their bondholders. When their 6 per cent bonds were at 30, they never failed to pay the full interest and apply the heavy sinking fund. Now, that those cloudy days have passed away, the country is at peace, prosperity in a full blaze, and money matters are easy, of course the case of the bondholders is better than ever. The old 6 per cents have reached a premium. But we can not say that the Argentines have managed their financial matters well as to raising new loans. The recent Paris loan of £3,000,000 (\$12,000,000) for railway extension was raised* at 82, and the more recent Lon-

don loan for similar purposes of £2,450,000 was placed at 91 per cent. Both these prices seem high for 6 per cent Argentine loans, especially when the old loan was at par or a premium. The last London loan, issued at 91 price, is really better than the old 6 per cent loan, which commands par or a small premium, since the heavy accumulative sinking fund of the old loan is rapidly paying those bonds off at par. The 1868 6 per cent loan has already been nearly paid off, and will be entirely extinguished by 1889. Therefore, those 6 per cents can never go to much premium. But the new 6 per cent loan, whose security is just as good, has an accumulative sinking fund of 1 per cent, which discharges the principal at par in 33½ years. Therefore, these bonds may reach a higher premium than the old, for their time of repayment at par is much more distant. The credit of the Argentines being so sound, and the prosperity of the country so great, we should have thought that 6 per cents could have been placed at par. The Buenos Ayres Great Southern Railway 6 per cent debenture stock is at 120 with the dividend just off, and the Central Argentine Railway 6 per cent debenture stock at the same price, at which the purchaser only gets 5 per cent for his money. The government security may never stand so high as the railway, but there would have been a wide difference if the government 6 per cent stock had been placed at par, the railway 6 per cents commanding 20 per cent premium."

The new departure in Argentine foreign commerce referred to in the "Annual Cyclopædia" for 1880 (p. 21), namely, an excess of exports over imports, ruled in a still higher degree in the year following the one alluded to in that volume. "Ships now leave our ports," remarks President Roca, "with what we formerly imported, and each successive year we have some new product to export. Here is one fact: 4,000 tons of flax shipped from the country between January 15th and April 15th this year."

Argentine 1868 six per cents were quoted in London at 101½ to 102½ on December 22, 1881. These securities first reached par in December, 1880.

The subjoined tables show the values, sources, and destinations, respectively, of the exports and imports for 1880:

From	IMPORTS.	Values.
Belgium.....		\$2,403,000
Brazil.....		2,332,000
Chili.....		503,000
France.....		8,025,000
Germany.....		2,289,000
Great Britain.....		12,108,000
Holland.....		344,000
Italy.....		2,534,000
Paraguay.....		806,000
Spain.....		2,394,000
United States.....		3,120,000
Uruguay.....		3,183,000
West Indies.....		131,000
Other countries.....		984,000
In transitu.....		2,965,000
Total		\$44,066,000

* October, 1880.

Destinations.	EXPORTS.	Values.
Belgium.....		\$13,893,000
Brazil.....		1,923,000
Chile.....		1,273,000
France.....		15,583,000
Germany.....		2,460,000
Great Britain.....		5,169,000
Italy.....		2,058,000
Paraguay.....		46,000
Spain.....		1,139,000
United States.....		4,961,000
Uruguay.....		1,795,000
West Indies.....		1,479,000
Other countries.....		776,000
In transit.....		3,925,000
Total.....		\$56,497,000

On comparing these two tables, the balance of trade in favor of the republic in 1880 is observed to have been \$12,431,000, against \$2,898,000 in 1879. To the usual list of Argentine export staples* have been added some new articles, as, for instance, ostrich-feathers, of which 72,229 kilogrammes were shipped in 1880, of the value of \$156,000.

The shipping movements at the various ports were as follows in 1880:

	Number of vessels.	Aggregate tonnage.
Entered: { Steamers....	2,517	902,290
{ Sailing-vessels	2,147	308,167
Cleared: { Steamers....	2,112	822,882
{ Sailing-vessels	1,022	231,946

Of railways there were ten in operation in 1881, of an aggregate length of 1,545 miles; and in course of construction three other lines, aggregating 190 miles. Of telegraph lines there were, in 1877, 4,848 miles (3,365 miles of which were the property of the state), with an aggregate of 9,887 miles of wires. The number of dispatches in 1879 was 242,259, of which 42,636 were official; the receipts having been \$165,266, and the expenditures \$169,266.

In 1879 the number of letters that passed through the post-office was 6,696,328, of which 1,494,854 were official; and that of packages of printed matter 11,152,089, of which 457,913 were to or from foreign countries.

On the occasion of the opening of Congress, May 8, 1881, President Roca, in a long but unusually interesting message, presented an elaborate sketch of the country under its various aspects—political, financial, commercial, industrial, and intellectual. Here follow a few brief extracts from that document:

MESSRS. SENATORS AND DEPUTIES: As you are aware, peace, order, and complete liberty, with every prospect of a long duration, prevail all over the republic, and our credit has reached every country and market in Europe, where they are at last beginning to believe that we have reached the years of discretion and common sense. The uncertainty in which we were living, even in times which were apparently the most tranquil, has been succeeded by a most boundless confidence in the future. Life, movement, a spirit of progress, and a love of work, have sprung up in all parts. The provinces are no longer armed in defense of their autonomy or against revolution, but are occupied in political, social, and economic reorganization, improved administration, agriculture, irrigation, roads, banks, and all kinds of improvements.

The session before you is full of work to be done. It is as if we were a people newly born, as you will

have to legislate on the attributes, means, and authority of the nation—so great was the want of a permanent capital for the republic. Now you may make laws in full liberty, knowing that they will be obeyed, and without consulting anything but common sense, justice, and expediency, or fearing that any provincial governor should enter these halls to protest against or dictate your measures.

The Executive is in perfect accord with the authorities of all the provinces, and not even the slightest hitch has occurred in the working of the liberal and complicated laws of our political system. The law ordering national intervention in Rioja resulted in a speedy and satisfactory solution, thanks to the clear terms in which the orders of Congress were expressed, and the tact and prudence of the commissioner appointed.

I feel pleasure in telling you that the republic is on the best terms with all foreign powers. We can easily keep so, as the fundamental principle of our foreign policy is a determination to defend our rights and to respect those of others.

The Executive and the whole country have witnessed with profound sorrow the horrible drama on the Pacific, the ruin of two sister republics, and the gulf dug between three nations of the same blood, who should be united for mutual advancement, instead of tearing each other to pieces. For this reason the mediation of the United States Government in October last was so joyfully hailed by public opinion. We had a right to hope that such a powerful and respected nation would be able to bring about peace between the belligerents, and only when it failed did I deem it right to make a fresh attempt at conciliation, with the aid of a South American state which, being on the best of terms with the republics of this continent, and for other reasons, I considered the best wherewith to initiate a fresh attempt at friendly interference. The Minister of Foreign Affairs will report to you the result of this negotiation. The Governments of Peru and Bolivia addressed that of this country, denouncing the bitter character of the strife, and protesting against the terms of peace proposed by Chili. In its turn the Chilean Government sent us the protocols of the conferences at Arica, explaining its line of action, and declaring that it sought no conquest. I trust that, after the recent battles, decorous and satisfactory bases of peace may be arrived at. The reclamations made by the legations of the belligerents here have been impartially attended to, with due regard to the exigencies of those at war and the rights of those who, in peace and tranquillity, remain strictly neutral.

The Colombian Government asked us to send a representative to the conference at Panama, to introduce the principle of arbitration into American international law. Our relations with Brazil are perfect. The treaties which guarantee them are strictly observed, and the efforts of some uneasy spirits fail before the circumspection and foresight of both Governments. We must definitely settle our boundaries with the empire. It is a joint work, and, once the dividing line, through mysterious and deserted forests, is traced, the science and civilization of both countries will soon break in on their solitude. In more peaceful days for Bolivia we can also settle our boundaries with her. We maintain with Uruguay the good relations natural between nations whose blood and interests are identical, and any differences that arise are promptly settled with good-will on both sides. Paraguay has broken off her commercial treaty with this country and Brazil, but this shall not alter our wishes for her prosperity.

The Holy See, and the American and European Governments, send us frequent proofs of friendship. I will lay before you this year several conventions which will consolidate our good relations with those powers.

I have the utmost confidence in the rectitude of our foreign policy. Nothing shall divert us from the principle of peace abroad and the firm assertion of our

* See "Annual Cyclopædia" for 1880, p. 21.

rights. Our native land, whole and without a stain, shall link us equally with the past and the future.

The credit and wealth of the nation are apparent in every way, now that it is felt that peace and order are firmly established. The receipts at the custom-house in the capital for the last six months exceed by 1,045,500 hard dollars those in the same period of the previous year. Our bonds have reached the highest quotations in London, while here there is no price, as nobody will sell. Ships now leave our ports with what we formerly imported, and every year we have some new production to export. Here is one fact: 4,000 tons of flax shipped at the Riachuelo between 15th January and 15th April this year. The gross revenue of the national railways was \$805,379. The Central Argentine Railway is now beginning to return what it received as guarantee. The balance in favor of government in 1880 was \$130,993. The shares are at a premium in London. The mint is finished, and might have been at work, but the Executive decided to wait to lay before you some measures to meet difficulties that have arisen since you passed the coinage act. The abolition of forced currency and a uniform circulating medium are of primary interest to the country. Forced currency and privileges are against the spirit of a free government and the Constitution, which guarantees freedom of trade and industry; they also drive away foreign capital, disturb business, and inflict enormous loss on the Treasury. Every effort that Congress and the Executive can make to free the country from this burden will be amply repaid. The day on which we get a uniform currency, and are free from inconvertible paper and privileges, there will be an immense influx of foreign money. Bad coin, like the primitive languages of America, is not a means of civilization, and, if we have progressed in spite of monetary chaos, it is solely due to the exuberant vitality of the country.

The twelve-million loan, authorized in October last, for railway extension in the interior, was successfully contracted for with Paris bankers at 82, and the works are progressing. As you will see in the Finance Minister's report, it is the first loan launched here (and perhaps in South America) direct, and with special commissions.

The National Bank, reorganized in 1876, shares the general prosperity of trade. The price of its shares shows its improved credit, and it will be of much greater service in the interior when the monetary confusion that interferes with the circulation of its notes shall have disappeared.

ARKANSAS. The biennial session of the Legislature commenced in January. The financial affairs of the State occupied considerable attention. A State Board of Finance was created, consisting of the Governor, the Treasurer, and the Auditor, and is empowered to borrow money to meet the expenses of the government by pledging the State's bonds, which shall not be hypothecated for a less amount than three fourths of their face value. The debt thus contracted is to bear no higher rate of interest than 6 per cent per annum, and is to be payable in two years. A senatorial commission was appointed to examine the Auditor's and Treasurer's books, upon the suspicion of a default in the Treasurer's accounts. That officer's honesty was not impugned, however, by the instigators of the investigation.

A law was passed, prohibiting the sale or giving away of intoxicating liquors within a radius of three miles from any church or school-house in the State.

The Legislature passed one measure which

promises to be effective, if enforced rigorously, in diminishing a class of crimes for which the State has borne an evil reputation. It is the so-called "pistol bill," which makes it a misdemeanor, punishable by a heavy fine, to sell or to keep for sale, or to furnish in whatever manner to any person, any species of sword or dagger, or any kind of pistol, excepting the regulation navy revolver. It also prohibits the carrying of deadly weapons of any sort, except the wearer be on his own premises, or on a journey, or be an officer of the law. Officers and justices of the peace are subject to like penalties for neglecting to arrest or to entertain proceedings under the act.

A law to protect the public against unqualified medical practitioners requires every person desiring to practice as a physician or surgeon to prove his or her qualifications before a county board, and to be registered in the office of the county clerk. Persons denied registry may demand an examination, as to their proficiency, by a State medical board.

The law relative to larceny was changed so as to make thefts of property under the value of ten dollars petty larceny only, the law having been excessively severe, thefts of above two dollars being punished as grand larceny.

Arkansas is still one of the most backward States in educational facilities. The public-school appropriations amount to only \$205,000 per annum, being considerably less in proportion to the school population than is spent by any other State. Congress has granted over 1,000,000 acres of land to Arkansas for school purposes. In some sections the State fund is supplemented by liberal local levies. Considering the facts that the public-school system was not established until 1868, and that in 1870 only 75 per cent of the adult population could read and write, substantial educational progress is being made. The State tax for school purposes is only two mills on the dollar. The local tax raised in the individual districts is determined by popular vote every year at an annual school-meeting. The tax usually voted in the more progressive districts is five mills. Some depend solely on the scanty allowance afforded by the State fund.

A state of violence and intimidation, in which the authority of the law was superseded, prevailed for several months in Perry County, terminating in the assassination of J. L. W. Matthews, editor of the "Fourehe Valley Times." The judicial acts of County Judge Harris had been murmured at by a group of citizens, who complained that the murdered man had procured or influenced obnoxious proceedings. One day a band of armed men rode into Perryville, and frightened the judge from the bench by their menacing appearance. The Governor was appealed to, and General Newton, of the militia, visited the county, but found no outward evidences of lawlessness. There were no further disturbances until the evening in July on which Matthews was shot. Judge

Harris received at the same time a notice of warning to leave the county. Through fear, the sheriff and magistrates refrained from instituting proceedings against the suspected murderers, appealing to the Governor to restore order. Two detachments of militia were sent into the disturbed district to protect the civil officers in the discharge of their duty. The arrest and commitment of the prisoners took place under military guard. A guard of State soldiery was posted in the town for several weeks to preserve order. Similar lawless developments occurred in Polk County, though of a less serious character. Writs of the court were defied, and the sheriff threatened. Exhibitions of mob-law have not grown less frequent in Arkansas. Various cases of the infliction of vengeance on supposed criminals by bands of lynchers occurred in 1881, as in former years. Instances of the violent seizure of prisoners in legal custody, and the wreaking of popular rage upon their persons, continue to take place. These manifestations of lawlessness accompany, as usual, a high rate of crime, especially of the crimes against the person which spring from anger or revenge, or reckless bravado. The customary difficulty of procuring salutary convictions for serious assaults of this character still obtains. There are many signs, however, of a rapid reformation of the manners of the people in this respect. This tendency is clearly reflected in the expressions of the press, and in the attitude of the influential classes of citizens. The strict and judiciously framed law against the unwarranted carrying of deadly weapons, passed at the last session of the Legislature, indicates the vigor of the movement. The recent temperance legislation had for its principal motive the desire to prevent violence and crime. An active agitation, which wins a remarkable moral and numerical support, is now being carried on in favor of stringent restrictive or prohibitory enactments to suppress the liquor-traffic. This movement takes rank with the debt controversy as a leading political question. It has its root in the determination to redeem Arkansas from its reputation for savagery and anarchy; although the majority may condemn a prohibitory law, as unnecessary or impracticable.

The question of the repudiation of a part of the bonded debt of the State has rendered imminent a disruption of the Democratic party. The plan of resettlement embodied in the Fishback amendment, so called, which was rejected in the general election of 1880, is earnestly approved by a large section of the party, while the other branch includes its most decided opponents. Neither faction can sacrifice their liberty to speak and vote according to their principles in this question, while both are equally anxious to preserve the party organization in order to prevent the administration from falling into the hands of the Republicans. It was proposed, therefore, that at the Democratic Convention of 1882, a State ticket should

be nominated which should be supported by both divisions of the party unitedly, and that a resolution should be adopted, calling for a constitutional convention for the settlement of the debt question. Every member of the party should be guided by his own convictions on the debt question in the canvass for the Assembly elections, and in his action with reference to the Constitutional Convention. The Democratic State Central Committee, in a meeting in May, concluded to bring forward in the State Convention a proposition for an amendment which would not invalidate the objectionable bonds, but would yet prevent their funding or payment without the express acquiescence of the people. The purport of the proposed amendment, by which it is sought to stave off the question and avoid a final committal of the party, is expressed in the following first draft to be submitted to the party convention in the beginning of 1882:

1. Hereafter the General Assembly of this State shall be prohibited from making any settlement or adjustment of the bonded debt of this State, based on what is known as railroad-aid bonds, levee bonds, or Holford bonds, which shall be binding upon the State, until such adjustment shall have been submitted to and voted upon by the qualified electors of this State by the next succeeding general election after such act of adjustment has been passed, and the same shall have been ratified by a majority of the qualified electors voting at such election.

2. That no act of the General Assembly of this State, which may hereafter be passed, making an appropriation to pay off any part of the principal or interest of any of the bonded indebtedness of this State, based upon what is known as railroad-aid bonds, levee bonds, or Holford bonds, shall be binding on the State or paid from the Treasury until such act shall have been submitted at the next succeeding general election after such act of appropriation has been passed to the people, and the same shall have been ratified by a majority of all the qualified electors voting at such election; and they further recommend that no action on said indebtedness be taken by the General Assembly until such amendment shall have been submitted to a vote of the people.

The financial troubles of Arkansas date from its first erection into a State in 1836. A State Bank was organized, and authorized to issue \$2,000,000 of bonds, and further credit was obtained by means of a real-estate bank, whose \$1,500,000 of bonds were guaranteed by the State, and secured by the public lands. Both institutions suspended payments in the second year. This was the commencement of the State debt, the unskillful management of which has ever since impeded the progress of the State. The State debt matured in 1862. Since the restoration of self-government in 1869 the weight of public sentiment has favored the evasion of the vast liabilities which it would still tax all the resources of the State to discharge in full. The debt contracted in waging war against the Federal Government was declared void. Its repudiation was followed by a series of defaults on other obligations. The levee bonds were decided to be unconstitutional by the Supreme Court in 1878, and all the railroad-aid bonds have since been declared

by the same court to have been illegally issued. The vote on the Fishback amendment, which repudiates the bulk of the debt of Arkansas, was about 61,000 for, to 41,000 against. It was declared not carried, because it lacked 4,000 of a majority of all the votes cast. The liabilities, considered not binding by so large a proportion of the citizens of the State, consist of about \$2,000,000 of levee bonds, \$5,000,000 of railway-aid bonds, and other disputed liabilities, aggregating about \$4,000,000. There is an admitted debt amounting to some \$5,000,000, over half of which is funded. The ground on which the levee and railroad subsidy were outlawed by the courts, and on which they are disclaimed by the people, is principally that the acts authorizing their issue were not passed in the manner provided by the State Constitution. The other class of bonds which it is sought to exclude, known as the Holford bonds, were a part of the whole series issued under the funding act in 1870-'71. They are objected to on the ground of general fraud. The other funded bonds of the State are recognized as valid by all parties. The Legislature in the early part of the session of 1881 passed an act directing the Auditor and Treasurer to drop from their books the levee, railroad-aid, and Holford bonds.

The settlement of the debt question in a way which shall be understood to be final, whether by the acknowledgment of the entire debt, or the repudiation of a portion of it, would probably promote the commercial progress of Arkansas. The cessation of lawless license and the universal observance of legal methods would have a much more powerful effect in attracting capital and immigration. The recent extension of railroads is already leading to the establishment of new industries, and the enlargement of the agricultural area. Although its development has been slower than that of any other State, the natural resources of Arkansas are scarcely excelled. Nearly the entire area of the State is cultivable land of high average quality. The soil is seven to ten feet in depth, and contains potash, soda, magnesia, ferrous oxide, lime, and phosphoric acid in favorable quantities. The greater part of the 10,000,000 acres donated by Congress as "swamp-lands," need no reclamation whatever. Timber-land in this State is easily brought under cultivation, as stumps rot thoroughly in three years. The crops of the prairie States and of the Gulf States thrive equally. The yield of cotton is as large in proportion to the labor applied as in any part of America. It is a surer crop in Southern Arkansas, probably, than in any other district. Sugar-cane, tobacco, and all the cereals are cultivated with profit. The planting-season lasts from February till August, so that, if a crop does not promise well, a second one can be planted and harvested the same season.

Arkansas is one of the richest timber States in the Union, though this source of wealth has been as yet but little developed. The abundant

growth of excellent black-walnut will doubtless come into requisition as the supplies of that valuable wood fail in Indiana, Upper Canada, and other northern districts, while the demand still increases. There are seventy varieties of useful timber in Arkansas. Besides black-walnut, there are numerous other highly-prized timber-trees, which attain large proportions, and grow in abundance. There are several varieties of the oak. The cherry, the boisd'arc, the holly, and the maple furnish choice qualities of timber. The cedar, the beech, the poplar, the cypress, the hickory, and the ash are common. The yellow pine grows to large size, and its forests take up one tenth of the area of the State. With 2,500 miles of navigable rivers, with a greater length of running water than any other inland State, the facilities for driving logs render the wealth of valuable lumber, which clothes a greater part of the State's surface, easily accessible. Walnut logs have already been shipped in large quantities to Eastern manufactories and to England. The price of this favorite wood is constantly rising. The lumber was at first floated in rafts, buoyed up by intermingled cypress logs, to New Orleans, and thence shipped on cars to the East, but is now transported directly by rail.

Arkansas is also a State of extraordinary though undeveloped mineral wealth. The coal-fields, covering 12,000 square miles, and containing more than those of Great Britain, afford anthracite and cannel as well as bituminous coal, deposited in strata of four to nine feet in thickness. The semi-anthracite quality characteristic of these beds renders the coal excellent for smelting and manufacturing purposes. The iron-ores are as rich as those of Missouri, and nearly as abundant. Specular and hematite ores both abound. The lead-ores of Arkansas are of remarkable richness, containing, not only a large percentage of lead, but a considerable proportion of silver associated with it. Veins have been found yielding 70 per cent of pure lead and 200 ounces of silver per ton; and assays of 6 per cent of silver have been known. Perhaps the largest zinc deposits on the continent are found in this State, and stores of manganese unexcelled in any part of the world. Among the other prospectively valuable mineral resources are mines of salt, antimony in abundance, gypsum in greater quantities than the other States contain together, and, in Pike County, near the Little Missouri River, a whole mountain of fine alabaster. Silver-mining operations are being started in the Mount Ida district, in Montgomery County. The ores are as rich as many which are profitably worked in districts where the business has been long established, but where the facilities are far inferior. In Pulaski County, just out of Little Rock, there are other ledges of ore which assay from 50 to 1,200 ounces a ton. Zinc is found in vast, easily accessible beds of calamine, or carbonate, which is the most easily worked of the zinc-ores, and also in the form of the

sulphuret or blende. Works established in Lawrence County for converting the calamine into metallic zinc have been abandoned, probably from want of capital. In the northern counties there are vast quantities of marble of many varieties, and of admirable texture for building and monumental purposes.

The great extension of railroad facilities, which is in prospect, will contribute largely to the material development of Arkansas. Railroad companies contemplate the building of some 2,000 miles of new railroad within the State lines. They do not expect any assistance from the State, since the constitutional limit of 850 miles of railway altogether for which the State, county, and city credit may be pledged, was reached several years ago, the aid awarded amounting to \$9,900,000 in all. The Iron Mountain Company, which has already done much to build up the State, contemplates building 900 miles of branch lines. One will reach from near the Missouri line to Vidalia, opposite Natchez. The second will run from about 30 miles south of the north line of Arkansas straight west 150 miles. Another will extend from Little Rock southeast to the Louisiana line. The fourth will extend from 85 miles southeast of Little Rock to Alexandria, Louisiana, on the Red River. The extension of the Atchison, Topeka and Santa Fé to the Mississippi will enter Arkansas at Fort Smith, and pass across the State from side to side, 200 miles. The St. Louis and San Francisco is completing the section from the north State line to Texarkana, 200 miles long, whence it will follow the course of the Red River to a point opposite Natchez, 150 miles farther. The Memphis and Charleston intends crossing the State from the east. The line being built by the Texas and St. Louis Company intersects the State diagonally from the southwest to the northeast corner, 300 miles. The same railroad company is adding a branch, 120 miles long, running from Little Rock to Shreveport. The Fort Scott, Southeastern and Memphis Railroad is building a line from Springfield, Missouri, to the Mississippi, opposite Memphis, traversing the State for 200 miles. Besides these, various shorter lines and branches have been surveyed, and some are under construction. The projected railroad of the Georgia syndicate from Atlanta to the Mississippi River, opposite Arkansas City, will furnish direct connection between Arkansas towns and the Southern sea-ports on the Atlantic, making a continuous line from Fort Smith, on the border of the Indian nation, to Atlanta, and thence to Charleston and Richmond.

The compilation of the census of Arkansas has been only partially completed at the Census Office, so as to be available for this volume. The following is the population of the State by counties :

COUNTIES.	Population.	COUNTIES.	Population.
Arkansas.....	8,038	Benton.....	20,358
Ashley.....	10,156	Boone.....	12,146
Baxter.....	6,004	Bradley.....	6,285

COUNTIES.	Population.	COUNTIES.	Population.
Calhoun.....	5,671	Lonoke.....	12,146
Carroll.....	13,837	Madison.....	11,455
Chicot.....	10,117	Marion.....	7,907
Clark.....	15,771	Miller.....	9,919
Clay.....	7,213	Mississippi.....	7,832
Columbia.....	14,090	Monroe.....	9,574
Conway.....	12,755	Montgomery.....	5,729
Craighead.....	7,037	Nevada.....	12,959
Crawford.....	14,740	Newton.....	6,120
Crittenden.....	9,415	Ouachita.....	11,758
Cross.....	5,050	Perry.....	8,872
Dallas.....	6,505	Phillips.....	21,262
Desha.....	8,973	Pike.....	6,345
Dorsey.....	8,370	Poinsett.....	2,192
Drew.....	12,231	Polk.....	5,557
Faulkner.....	12,786	Pope.....	14,322
Franklin.....	14,951	Prairie.....	8,435
Fulton.....	6,720	Pulaski.....	32,616
Garland.....	9,023	Randolph.....	11,724
Grant.....	6,155	St. Francis.....	8,859
Greene.....	7,451	Saline.....	8,953
Hempstead.....	19,015	Scott.....	9,174
Hot Spring.....	7,775	Searcy.....	7,278
Howard.....	9,917	Sebastian.....	19,560
Independence.....	18,086	Sevier.....	6,192
Izard.....	10,875	Sharp.....	9,047
Jackson.....	10,877	Stone.....	5,089
Jefferson.....	22,386	Union.....	13,419
Johnson.....	11,565	Van Buren.....	9,565
La Fayette.....	5,730	Washington.....	23,544
Lawrence.....	8,752	White.....	17,794
Lee.....	13,288	Woodruff.....	8,646
Lincoln.....	9,255	Yell.....	13,552
Little River.....	6,404		
Logan.....	14,585	Total.....	802,525

The result of the presidential election in the State was—Hancock, Democrat, 60,775 ; Garfield, Republican, 42,436 ; Weaver, Greenback, 4,079 : total vote, 107,290. Hancock's majority over Garfield, 14,260.

The vote for State officers was as follows :

FOR SECRETARY OF STATE.	
Jacob Frolich, Democrat.....	56,732
C. E. Tobey, Greenback.....	27,630
FOR TREASURER.	
W. E. Woodruff, Jr., Democrat.....	86,937
W. A. Watson, Greenback.....	26,443
FOR AUDITOR.	
John Crawford, Democrat.....	86,997
C. E. Cunningham, Greenback.....	26,270
FOR ATTORNEY-GENERAL.	
C. B. Moore, Democrat.....	87,206
G. Sibley, Greenback.....	24,370
FOR LAND COMMISSIONER.	
D. W. Lear, Democrat.....	88,251
W. Riley, Greenback.....	27,116
FOR SUPERINTENDENT OF PUBLIC INSTRUCTION.	
J. L. Denton, Democrat.....	90,329
FOR CHIEF-JUSTICE.	
E. H. English, Democrat.....	87,051
J. C. Davis, Greenback.....	27,357
FOR CHANCELLOR.	
D. W. Carroll, Democrat.....	88,462

The vote for members of Congress was as follows :

District.		
I.	{ Dunn, Democrat.....	15,753
	{ Johnson, Republican.....	10,407
	{ Jones, Democrat.....	16,517
II.	{ Williams, Republican.....	4,513
	{ Garland, Greenback.....	3,920
III.	{ Cravens, Democrat.....	15,781
	{ Boles, Republican.....	11,552
	{ Gunter, Democrat.....	7,397
IV.	{ Murphy, Republican.....	4,125
	{ Peel, Independent Democrat.....	5,781

The State Legislature was divided as follows:

PARTIES.	Senate.	House.
Democrat.....	80	80
Republican.....	1	10
Greenback.....		3

ARMY OF THE UNITED STATES. The military divisions and their departments, with the names of the commanding generals, are as follows:

Military Division of the Missouri, Lieutenant-General Sheridan.

A. Department of Dakota, Brigadier-General Terry.

B. Department of the Platte, Brigadier-General Crook.

C. Department of the Missouri, Brigadier-General Pope.

D. Department of Texas, Brigadier-General Augur.

Military Division of the Atlantic, Major-General Hancock.

A. Department of the East, Major-General Hancock.

B. Department of the South, Colonel and Brevet Brigadier-General Hunt.

Military Division of the Pacific and Department of California, Major-General McDowell.

A. Department of the Columbia: 1. Colonel and Brevet Brigadier-General Wheaton; and, 2. Brigadier-General Miles.

B. Department of Arizona, Colonel and Brevet Brigadier-General Willcox.

The Department of West Point is under General O. O. Howard, and the artillery-school at Fort Monroe, Virginia, is under command of Brevet Major-General Getty.

The total enlisted force of the army in October, 1881, was 23,596 men. There were 120 companies of cavalry, 60 of artillery, and 250 of infantry.

For a short time, viz., from January 31, 1881, to May 9, 1881, a Military Division "of the Gulf" was constituted by President Hayes, embracing Louisiana, Texas, Arkansas, and the Indian Territory, with Major-General Schofield in command; but, as this division was found to fulfill no useful military end, it was discontinued by President Garfield, leaving boundaries as they existed before.

While the troops have been kept very busy during the past year, no serious Indian or other war has occurred, but great progress has been made in collecting and locating Indians, hitherto hostile, on their proper reservations. Sitting Bull and his adherents, who had fled into British territory, are now held at Fort Randall, Dakota, as prisoners of war, and the Utes have been moved to a new reservation in Utah. A sudden outbreak of a part of the Apaches occurred in Arizona. In this case it was found necessary to re-enforce for a short time the usual garrisons in Arizona by a strong detachment from New Mexico under Colonel Mackenzie of the Fourth Cavalry. Some of the guilty

Apaches are held as prisoners for trial. Some have escaped into Mexico, while the greater part of the tribe remains on their reservation at San Carlos, under their proper civil agent.

The actual expenditures under the War Department for the fiscal year ending June 30, 1881, were \$42,122,201.39.

The appropriations for 1882 were \$44,889,725.42.

The estimates for 1883 are \$44,541,276.91.

The estimates presented to the Secretary for revision included—

For armament of fortifications.....	\$720,000
Fortifications and other works of defense.....	4,136,500
Improving rivers and harbors.....	29,101,300
Improving Mississippi River, by commission.....	4,323,000
Public buildings and grounds in and near Washington	749,000
Surveys of lakes.....	20,000
Total.....	\$39,099,800

This amount was reduced, on his revision, to aggregate \$10,689,000.

The remainder of the estimates includes salaries and expenses of the departmental civil establishment and amounts for the support of the army, for armories and arsenals, and for miscellaneous objects. For these purposes the estimates for 1883 were \$33,852,276.91, being \$296,321.37 in excess of the estimates for 1882, and \$2,082,851.49 more than the appropriations for the current fiscal year. While the estimates of expenses for this class show an increase, there is in the estimates of expenses for improvements, including rivers and harbors, a decrease which overbalances the difference, and makes the estimates for 1883 \$348,448.51 less than the appropriations for 1882.

The report of the General of the Army calls attention to the public necessity of legislation authorizing the army to be recruited to a strength of thirty thousand enlisted men. There are in the army four hundred and thirty companies, which are necessarily widely scattered over the vast domain, to guard property and to prevent, as far as foresight can, complications and troubles of every variety and kind; at one time protecting the settlers against Indians, and again Indians against the settlers. When these occur, re-enforcements have to be hurried forward from great distances, and always at heavy cost for transportation of men, horses, wagons, and supplies. This cost in the aggregate is estimated more than sufficient to supply an increase of twenty per cent of *private soldiers*.

The number of deaths of soldiers was 130 from disease and 67 from wounds and injuries, being 9 per 1,000 of mean strength, the fatal results in cases treated being as 1 to 190.

The number of new official demands upon the record and pension division during the fiscal year, for information as to the cause of death in the case of deceased soldiers and the hospital record of invalids, was 55,040. The average number of such demands, during the previous ten years, had been 22,245 annually, and the number during the fiscal year termi-

nating June 30, 1880, was 39,241; the number received during the fiscal year ending June 30, 1881, being an increase of 40 per cent over the previous fiscal year, and of 147 per cent over the annual average of the previous ten years.

At the commencement of the fiscal year 6,964 cases remained unanswered, making 62,004 cases to be disposed of during the year. Search was made and replies furnished to the proper authorities in 40,596 of these cases, leaving 21,408 unanswered cases on hand on the 1st of July, 1881.

ARNIM, Count HARRY VON, ex-ambassador of Prussia at Paris, died at Nice, May 19th. He was born of an influential family of the Prussian aristocracy in Pomerania, in 1824. His uncle, who had adopted him, was Minister for Foreign Affairs. He embarked in a diplomatic career at an early age. In 1864 he first won celebrity as envoy to Rome, gaining special credit by his attitude toward the Ecumenical Council. He was summoned to Versailles in 1871 to aid in settling terms of peace with the French, and took a leading part in the negotiations which resulted in the Treaty of Frankfort. In June, 1872, he was appointed ambassador to Paris. Differences of opinion, which had long existed between him and the German Chancellor, led to his recall and assignment to Constantinople in April, 1874. The publication of his Roman dispatches caused his dismissal from the service. The polemical discussion to which he challenged Prince Bismarck was answered by his prosecution and sentence to imprisonment on the charge of having filched state documents from the archives of the German embassy at Paris. He had previously removed himself beyond the jurisdiction of the German courts. A pamphlet published anonymously, in which he sought to trace evidences of the personal spite of the Chancellor in his former prosecution, led to a new indictment, and his sentence to five years of penal servitude for lèse-majesty and insults to the Chancellor and the Foreign Office. In pamphlets published in 1878 he criticised in a calm and dignified tone the aggressive policy of the German Government against the Catholic Church, arguing that Prussia should have aimed to establish a national Catholic Church in Germany. In later years he desired to return to Germany and stand his trial for high-treason, the sentence for which crime hung suspended over him; but the authorities refused to appoint a new trial.

ARTHUR, CHESTER ALLAN, elected Vice-President of the United States in 1880; succeeded to the presidency on the death of James A. Garfield, September 19th. He was born in Fairfield, Franklin County, Vermont, October 5, 1830, and was the eldest of a family of two sons and three daughters. His father, the Rev. William Arthur, was a Baptist clergyman, who had emigrated at the age of eighteen from the county of Antrim, Ireland. He was a man of some prominence in his denomination,

having been pastor of Calvary Baptist Church in New York city from 1855 to 1863, and was the author of a work on "Family Names," which displayed great erudition of a peculiar kind. He died in Newtonville, near Albany, New York, October 27, 1875. The President's early education was acquired in the schools of Vermont, and at the age of fifteen he entered Union College at Schenectady, New York, graduating high in his class in 1849. During his college course he supported himself in part by teaching, and after his graduation he continued in that occupation for about two years, being for a time Principal of the Pownal Academy in Vermont. Meantime he had also devoted himself to the study of the law, and, having saved a few hundred dollars from his earnings as a teacher, he set out for New York, where he entered the office of ex-Judge E. D. Culver. Having been admitted to the bar, he formed a partnership with his intimate friend Henry D. Gardiner, and the two set out with a view to settling in the West. After searching about for some time, they returned to New York, and settled down to practice there, rapidly acquiring a good degree of success. Early in his professional career Mr. Arthur married a daughter of Lieutenant Herndon, of the United States Navy, an officer who had gone down with his ship at sea, and whose widow was the recipient of a gold medal, voted by Congress, in recognition of his bravery. Mrs. Arthur died in 1880.

In the latter part of 1852 one Jonathan Lemmons, of Virginia, on his way to Texas with eight slaves, was awaiting the sailing of the steamer in New York, when a writ of *habeas corpus* was obtained on behalf of the slaves. It was held by Judge Paine that they could not be held to servitude in the State of New York, nor returned to it in the South, under the provisions of the fugitive-slave law. Their liberation was accordingly ordered. The Legislature of Virginia took up the case, and authorized the Attorney-General of the State to take action for the recovery of the slaves. Mr. Arthur was associated with Mr. William M. Evarts on the other side, and they won the case both before the court of first instance and in the Supreme Court of the United States, where it was carried on appeal, and where Mr. Charles O'Connor argued the claims of the slaveholder. In 1856 Mr. Arthur took up the case of Lizzie Jennings, a colored girl, who had been forcibly ejected from a street-car in New York city, after paying her fare. He brought suit for damages before Judge Rockwell in Brooklyn, and recovered \$500 for the girl. The result was, the abrogation of the rule of the street railroad companies which had previously forbidden colored persons to ride in the same cars with other passengers.

Mr. Arthur early took an active interest in politics as a Henry Clay Whig, and was a delegate to the convention, at Saratoga, which founded the Republican party of New York.







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Chester A. Allen
Feb 15 1882

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He also had a taste for the administration of military affairs, and before the civil war was Judge-Advocate of the Second Brigade of the State militia. When Edwin D. Morgan became Governor of New York, at the beginning of 1860, he appointed Mr. Arthur to the position of engineer-in-chief on his staff, and he was afterward made Inspector-General, and then Quartermaster-General of the military forces of the State, an office which he held until the end of Governor Morgan's term, at the close of 1863. He conducted the duties of his office in equipping, supplying, and forwarding the immense number of troops furnished by his State, with such success that his accounts were audited and allowed at Washington without deduction, while those of some of the States were reduced by millions of dollars. It has also been said that while he had the giving of many large and profitable contracts, and the control of enormous purchases, with opportunities for making gains, which most men would have regarded as legitimate, he never profited a penny from the business under his charge, and left the office of Quartermaster-General poorer than when he took it. Presents offered to him were promptly rejected, and, if sent, returned. In 1862 there was a secret meeting of "loyal Governors," to discuss measures for providing troops, at which Mr. Arthur was present by invitation, being the only person taking part who was not the Governor of a State. Many instances are related of the notably vigorous administration of his military office.

In 1865 General Arthur returned to the practice of law, and built up a large business in collecting claims against the Government. He also drafted many important measures of legislation, and promoted their adoption both at Washington and at Albany. For a short time he was counsel of the New York Board of Tax Commissioners. Meantime he took an active part in local politics, and became known for his skill as an organizer and manager. On the 20th of November, 1871, he was appointed by President Grant Collector of Customs at the port of New York, an office to which he was reappointed in 1875. His second appointment was promptly confirmed by the Senate without a usual reference to a committee. President Hayes, after his accession to office in 1877, promulgated an order forbidding persons in the civil service of the Government from taking an active part in political management. Mr. Arthur was at that time chairman of the Republican Central Committee of New York city, and Mr. A. B. Cornell, who held the position of Naval Officer, was chairman of the State Central Committee, of the same party. Both gentlemen neglected to comply with the President's order by resigning their party positions, and were suspended from office in July, 1878. An attempt had previously been made to supersede General Arthur by removing him, and appointing his successor during

the session of the Senate, but the appointment was not confirmed. The successor appointed after his suspension in July was confirmed in office at the following session of the Senate. Two special committees investigated Mr. Arthur's administration of the Collector's office, and reported nothing on which a charge of official dereliction could be based. Both the President and the Secretary of the Treasury, in connection with his suspension, acknowledged the purity of his official acts. A petition for his retention in office, signed by all the judges of the New York courts, most of the prominent members of the bar, and nearly all the importing merchants of the city, was suppressed by Mr. Arthur himself. The only accusation made against him was that of disregarding the President's order in respect to active participation in political management. In a letter to Secretary Sherman, he produced figures showing that in the six years of his administration as Collector of New York, removals from subordinate offices amounted to only 2½ per cent of the whole number, against an average of 28 per cent under his three immediate predecessors, and that all but two appointments in one hundred to important positions, commanding a salary of \$2,000 and more, had been made by promotion from the lower grades of the service, on recommendation of the heads of bureaus. His reforms in the methods of conducting the business of the office were generally acknowledged.

On retiring from the office of Collector of the Port of New York, Mr. Arthur returned to the practice of law in that city, and continued to take an active part in politics, contributing materially to the nomination and election of Mr. Cornell to the governorship of the State. He was a zealous supporter of the claims of General Grant to the Republican nomination for the presidency in the Chicago Convention of 1880, being closely associated with Senator Conkling in the effort to secure that result, as he had previously been in the political affairs of the State of New York. When the movement to nominate General Grant was defeated, and Mr. Garfield was made the candidate, Mr. Arthur was nominated for the vice-presidency by acclamation, for the purpose of enlisting the hearty support of the Grant Republicans for the ticket, and securing, if possible, the vote of New York. He took an active part in the management of the canvass which followed, especially in his own State, acting as chairman of the Republican Central Committee. He presided in the Senate during the special session, which began on the 4th of March, with dignity and general acceptance. In the contest between the President and Senator Conkling, in regard to appointments in the State of New York, the Vice-President took no part, but, after the resignation of the New York Senators, he went to Albany and actively participated in the effort to secure their re-election. It was during this contest

that President Garfield received the shot that subsequently proved fatal, and it put an end to Mr. Arthur's electioneering efforts in behalf of Mr. Conkling. While the President lingered between life and death from July 2d to September 19th, the Vice-President refrained from all part in public affairs and the controversies of the time, only expressing on fitting occasions his own sincere share in the common grief and anxiety.

The death of President Garfield was announced to him in New York by a telegraphic dispatch from the members of the Cabinet, who expressed the wish that he would repair to Long Branch the following morning. In accordance with the advice of his friends, he took the oath of office at his own house in New York before one of the judges of the State Supreme Court, at about two o'clock in the morning of September 20th. After visiting Long Branch and accompanying the remains of the dead President to Washington, Mr. Arthur was sworn into office in a more formal manner before the Chief-Justice of the Supreme Court on the 22d, and delivered a brief address in which he expressed his sense of the grave responsibilities devolved upon him. The same day, as his first official act, he proclaimed a general day of mourning for his predecessor. A special session of the Senate was called, to begin on the 10th of October, for the purpose of choosing a presiding officer and confirming such appointments as might be submitted. The members of the Cabinet were requested to retain their places until the regular meeting of Congress in December. Only Secretary Windom, of the Treasury Department, who desired to become a candidate for the Senate from Minnesota, insisted on his resignation. Chief-Judge Folger, of the New York Court of Appeals, was chosen as his successor, after ex-Governor E. D. Morgan, of the same State, had declined the appointment, though it had been submitted to the Senate and promptly confirmed. The new President took a prominent part officially in the Yorktown celebration on the 19th of October, delivering an appropriate address.

ASTRONOMICAL PHENOMENA AND PROGRESS. *The Sun.*—The "American Journal of Science" for June, 1881, contains a discussion of the American photographs of the transit of Venus in 1874, by Professor D. P. Todd. The mean equatorial, horizontal parallax of the sun derived from these photographs is $8.883''$, corresponding to a distance of 92,028,000 miles.

Solar Activity.—The "Comptes Rendus," vol. xciii, No. 8, gives the result of M. Tacchini's solar observations up to August 1st. The number of spots and prominences continues to increase. At no time between January 1st and July 31st was the sun's disk found free from spots. The daily record of their numbers has indicated several well-marked epochs of special solar activity. Whether these secondary max-

ima are accidental, or whether their occurrence is in accordance with an undiscovered law, is a question to be decided by future observations. The dates of these periods are: January 17-21, March 9-20, April 2-9, April 16-25, May 5-9, May 23-31, June 12-18, June 25-July 10, and July 24-August 4. M. Tacchini observes that these epochs are frequently separated by half a solar rotation.

New Minor Planet.—On the night of May 18th, Dr. Palisa detected a new minor planet, the 220th of the group. This is the only planetoid discovered during the year. Its light at the time of discovery was extremely feeble, the apparent magnitude being 13.5.

Jupiter's Spots.—Within the past year Professor Hough, Director of the Dearborn Observatory, Chicago, Illinois, has given special study and attention to the spots of Jupiter. A discussion of all the measures of the great red spot, commenced in the autumn of 1879 and continued through 490 days, gives a mean rotation period of $9^h 55^m 35.2^s$. But individual observations seem to indicate a motion of oscillation of the spot itself; the displacement in longitude amounting to 3,200 miles. The observations of small spots during two months indicated an average drift in longitude of about three miles per hour. The rotation period derived from observations of a small white spot almost exactly on the equator was $9^h 50^m 0.56^s$. If the great red spot, therefore, be regarded as fixed, the mean drift of the equatorial parts will be 265 miles per hour in the direction of the planet's rotation. The true diameter of the equatorial white spot measured about 2,800 miles. These observations, it must be confessed, leave the true rotation period of the planet somewhat uncertain. As they indicate, however, but slight deviations from permanency in the position, form, and dimensions of the red spot, the period can differ but little from $9^h 55^m 35^s$.

Comets.—The sixth comet of 1880 was discovered December 16th, by Dr. Peehüle, of Copenhagen. Its motion is direct, and the elements of its orbit resemble those of the comets of 1807 and 1881 b.

The first comet of 1881 was discovered May 1st, by Dr. Lewis Swift, Director of the Warner Observatory, Rochester, New York. Its elements have no marked resemblance to those of any known comet.

On the night of May 22d, Mr. John Tebbutt, of Windsor, New South Wales, discovered a comet which proved to be one of more than ordinary interest. The same body was independently detected a few days later by Dr. B. A. Gould, at Cordoba, South America. It was observed at many places in Europe and America on the morning of June 23d, and was conspicuously visible to the naked eye from June 23d to August 1st. Its tail could be traced to a distance of 12° or 13° from the nucleus, the true length being nine or ten millions of miles. Its orbit resembles that of the comet

of 1807, and its period exceeds two thousand years.

The third comet of the year was detected on the morning of June 14th, by Dr. J. M. Schæberle, at Ann Arbor, Michigan. It was observed telescopically more than three months, one third of which time it was visible to the naked eye. The striking resemblance of its elements to those of the third comet of 1822 is seen by the following comparison :

ELEMENTS.	1822 III.	1880 III.
Perihelion passage.....	1822, July 16.	1881, Aug. 22.
Longitude of perihelion.....	219° 53' 48"	219° 13' 38"
Longitude of ascending node.....	97 51 23	97 7 29
Inclination.....	142 16 56	140 16 9
Perihelion distance.....	0.8461	0.6338
Calculator.....	Heiligenstein.	Abetti.

On the night of July 6th a great outburst of the comet was observed at Cincinnati, Ohio, by Mr. Wilson and Professor Stone. The former first noticed a peculiar glare on the side toward the tail. The appearance was that of a large jet of matter, of a red or exceedingly bright color, shooting out from the comet. The phenomenon was so striking as to suggest the incipient separation of the comet into parts.

Encke's comet was detected on August 20th, by Dr. Hartwig and Professor Winnecke, with the six-inch comet-seeker of the Strasburg Observatory. This was its twenty-ninth return since its first appearance in 1786. The positions of this body are observed and discussed with a lively interest at each successive return, as Encke's celebrated theory of a resisting medium must stand or fall by the evidence derived from its motion.

The fifth comet of 1881 was discovered on the morning of September 19th, by Professor E. E. Barnard, of Nashville, Tennessee. Its elements are somewhat like those of the comet of 1698, as is shown by the following comparison :

ELEMENTS.	1698.	1881 V.
Perihelion passage.....	1698, Oct. 13.	1881, Sept. 15.
Longitude of perihelion.....	270° 51'	271° 22'
Longitude of ascending node.....	267 44	260 43
Inclination.....	101 46	107 27
Perihelion distance.....	0.6912	0.5076
Authority.....	Halley.	S. C. Chandler.

Another comet, the sixth of the year, was discovered October 4th, by Mr. W. F. Denning, of England. Its appearance was that of a small, round nebula with a bright, central nucleus. Herr Palisa has computed the following elements :

Perihelion passage.....	1881, Sept. 12.
Longitude of perihelion.....	22° 18' 5"
Longitude of ascending node.....	72 6 17
Inclination.....	7 35 57
Perihelion distance.....	0.725

Elements have also been computed by M. Schulhof, of Paris, and Professor S. C. Chandler, of Cambridge, Massachusetts. The period, according to the former, is seven years and nine months; according to the latter, eight years and four months. The orbit makes a rather close approach to that of Jupiter, near

its descending node, so that the comet is occasionally liable to considerable disturbance.

On the evening of November 16th, Dr. Swift, of the Warner Observatory, Rochester, New York, discovered a faint comet in Cassiopeia—the second detected by him since May 1st.

The Meteors of August and November.—The number of meteors seen about the 9th and 10th of August, 1881, was less than usual—a fact partly due to the brightness of the moonlight. The shower of November 14th–15th also failed, no Leonids having been seen in certain places where looked for. According to the "National Republican" of November 15th, a meteor of great brilliance was seen at Washington, D. C., about five o'clock on the morning of the 14th. It was described as a broad band of meteoric light starting from a point a little west of north, and about 60° above the horizon. This meteor, which was visible at least ten seconds, was probably a member of the Leonid stream.

Motions of the Fixed Stars.—The monthly notices of the Royal Astronomical Society for January, 1881, contain a fourth paper by Sir George B. Airy on spectroscopic results for the motions of stars in the line of sight, observed at the Royal Observatory at Greenwich. According to this table, the following are the rates of motion of certain well-known stars: Of the two pointers in the Dipper, Dubhe, that nearer the pole-star, is approaching the sun at the rate of twenty-seven miles per second, while Merak is receding with nearly equal velocity. In the same asterism, Phekda, Migrez, Alioth, and Mizar, are all receding at the average rate of sixteen miles per second, while Benetnash is approaching the solar system with a velocity of eight miles a second. In the Square of Pegasus, Alpheratz, Algenib, and Markab, are approaching at the rates of thirty-three, forty-six, and thirty-four miles per second, respectively, while Scheat is approaching at the rate of nineteen. The distance of Castor is increasing twenty-five miles per second, and that of Pollux decreasing at the rate of twenty-six. The distances of Aldebaran and Regulus are both increasing; the former twenty miles per second, the latter twenty-six.

The Distribution of the Variable Stars.—In "The Observatory" for September, 1881, Mr. T. E. Espin gives the following results of a careful study of the distribution of the variable stars:

"1. The variable stars show a decidedly well-marked zone inclined 15° or 20° to the equator.

"2. This zone crosses the preceding side of the galactic circle north of the equator, and the following south of it.

"3. In crossing the preceding side of the galactic circle, the zone is not many degrees broad, and is very clearly marked; where it crosses the following side it is broken up into two streams.

"4. The division into two streams occurs where the galaxy is also divided into two streams.

"5. In this part the variable stars are intimately connected with the galaxy, often falling in the gaps, and constantly on the edges of the gaps, but rarely in the center of the star-sprays from the galaxy. Where the zone crosses the preceding part of the galaxy, it is marked sharply and clearly, and seems unconnected with the galaxy.

"6. It is a remarkable thing that all the temporary stars with one or two exceptions have appeared in the region where the galaxy and the variable star zone are both broken into two streams.

"7. The exceptions to the zone are chiefly found in the bright and short period variables.

"8. The addition to the chart of the stars more strongly suspected variable, and that on competent authority, strengthens the zone very much indeed, and but very slightly the number of exceptions."

The fact that nearly all variable stars of short period are found in a particular zone has also been remarked by Professor E. C. Pickering, of the Harvard College Observatory. Professor Pickering describes this zone as extending 16° on each side of a great circle whose pole is in right ascension 195° and north declination 20° . The average distance of thirty-one well-known variables of short period from this great circle is $5^\circ 30'$, while a random distribution would give an average distance of 30° .

Gold Medal of the Royal Astronomical Society.—At the annual meeting of the Royal Astronomical Society of London, in February, 1881, the gold medal of the society was awarded to Professor Axel Möller, for his researches on Faye's comet.

ATLANTA EXPOSITION. (See EXPOSITION, ATLANTA.)

ATOMIC THEORY. There have been many attempts to establish a law of numerical relations between the atomic weights of the elements. The discovery of definite ratios between the atomic weights and other quantitative attributes, the division of the elements into specific groups distinguished by well-marked properties, and the tendency to doubt their primary character and to regard them as derivative combinations of simpler bodies, give a fresh impetus to speculation in this direction.

Mendelejeff's periodic law, confirmed as it has been by the discovery of gallium and other predicted elements, and by the agreement of many established facts with his scheme of periodic functions, which more exact quantitative determinations have rendered more complete, has been elevated into the rank of an accepted theory.

The Russian chemist has correlated the elements according to a synthetic law which is the most comprehensive yet established in chemistry, co-ordinating all the physical properties and the chemical affinities of the whole list of simple bodies. Arranging the elements in the order of their atomic weights, their densities, and consequently their atomic volumes,

which depend upon the density, and their combining numbers in compounds with other elements, each follow a certain progressive order in successive groups of the elements. Similar properties recur with complete regularity, and follow the same order of progression in the successive series. The properties are modified as the atomic weights increase; but the modifications affect entire groups, and do not interrupt the gradual progression within the periods. The elements of the different periods in which the same or similar properties are repeated constitute the natural families already established by other chemists upon the ground of their identical combining numbers. The atomic weights of contiguous elements usually differ by only a few units. In cases where there is a considerable hiatus there is also found a gap in one or more of the natural orders, which should be represented here by members of intermediate atomic weights between those of the preceding and the following periods. Some of the gaps in Mendelejeff's scheme have already been filled by subsequently discovered elements. Gallium corresponds in atomic weight and in properties to one of the predicted elements, as do also the descriptions of scandium and ytterbium. Mendelejeff's periodic law is expressed in general terms in the following predicate: All the properties of elements, and consequently of the compounds which they form, are functions of their atomic weights, to which they stand in periodic relations. In the following table all the known elements are arranged in the order of their atomic weights. The horizontal series gives the successive cycles in which the period of progressive development is completed; and the vertical series, the natural or homologous orders of elements in which the same properties reappear.

In the following table, it will be seen, tellurium is the only substance which is out of place. Possibly a redetermination of its atomic weight will give it in this respect the position between antimony and iodine which its intermediate properties indicate. Iron, manganese, and chromium, which differ very slightly in atomic weight, do not exhibit the close resemblance in behavior and properties which the theory requires; and cobalt and nickel, which have almost identical atomic weights and densities, possess, in some respects, quite dissimilar properties. Other differences as remarkable are shown by potassium and calcium, and other proximate elements. Copper, which has many analogies with mercury, here falls in a different group. The gradations of properties are certainly not uniform and proportionate to the atomic weights in the different series, being excessive, for example, between carbon, nitrogen, oxygen, and fluorine.

Besides the density, the malleability, ductility, fusibility, volatility, and conductivity to heat and electricity of elements seem, in the same manner, to be subject to periodic variations following the increasing order of their

Atomic weight.....	Li. 7.02	G. 9.3	B. 11	C. 12	N. 14.04	O. 15.96	F. 19.1	.....	.....	.....
Density	0.59	2.1	2.68	3.3	.....	.....	.....	.....	.....	.....
Atomic volume	11.9	4.4	4.1	3.6	.....	.....	.....	.....	.....	.....
Atomic weight.....	Na. 23	Mg. 24	Al. 27.3	Si. 28	P. 31	S. 32	Cl. 35.5	.....	.....	.....
Density	0.97	1.74	2.49	2.56	2.3	2.04	1.38	.....	.....	.....
Atomic volume	23.7	13.8	10.7	11.2	13.5	15.7	25.7	.....	.....	.....
Atomic weight.....	K. 39.14	Ca. 39.90	(Sc.) 43.9	Ti. 43	V. 51.2	Cr. 52.4	Mn. 54.8	Fe. 55.9	Co. 58.6	Ni. 58.6
Density	0.86	1.57	.....	.....	5.5	6.8	8	7.8	8.5	8.8
Atomic volume	45.4	25.4	.....	.....	9.8	7.7	6.9	7.2	6.9	6.7
Atomic weight.....	Cu. 63.8	Zn. 64.9	Ga. 69.9	? 72	As. 74.9	Se. 78	Br. 79.75	.....	.....	.....
Density	8.8	7.15	5.96	.....	5.67	4.6	2.97	.....	.....	.....
Atomic volume	7.2	9.1	1.17	.....	13.2	16.9	26.9	.....	.....	.....
Atomic weight.....	Rb. 85.2	Sr. 82.2	Y. 89.6	Zr. 90	Nh. 94	Mo. 95.8	?	Ru. 103.5	Rh. 104.2	Pd. 106.2
Density	1.52	2.50	.....	4.15	6.27	8.6	.....	11.3	12.1	11.5
Atomic volume	56.1	34.9	.....	21.7	15	11.1	.....	9.2	8.6	9.2
Atomic weight.....	Ag. 100	Cd. 111.6	In. 113.4	Sn. 117.8	Sb. 122	Te. 128?	I. 127	.....	.....	.....
Density	10.5	8.65	7.42	7.29	6.7	6.25	4.95	.....	.....	.....
Atomic volume	10.3	12.9	15.3	16.1	18.2	20.5	25.6	.....	.....	.....
Atomic weight	Cs. 132.15	Ba. 136.8	Ce. 137	La. 139	?	Di. 147	.....	.....	.....	.....
Density .....	.....	3.75	.....	.....	.....	.....	.....	.....	.....	.....
Atomic volume .....	.....	86.5	.....	.....	.....	.....	.....	.....	.....	.....
Atomic weight.....	?	?	Er. 170.6	(Yb.) 172.7	Ta. 182	W. 184	?	Os. 198.6	Ir. 196.7	Pt. 196.7
Density.....	.....	.....	.....	.....	10.8?	19.13	.....	21.4	21.15	21.15
Atomic volume .....	.....	.....	.....	.....	16.9	9.6	.....	9.3	9.3	9.3
Atomic weight.....	Au. 196.2	Hg. 200	Tl. 203.6	Ph. 206.4	Bi. 210	.....	.....	.....	.....	.....
Density.....	19.3	13.59	11.86	11.83	9.82	.....	.....	.....	.....	.....
Atomic volume	10.2	14.7	17.1	18.1	21.1	.....	.....	.....	.....	.....
Atomic weight.....	?	?	?	Th. 233.9	.....	U. 240?	.....	.....	.....	.....
Density.....	.....	.....	.....	7.7	.....	18.3	.....	.....	.....	.....
Atomic volume .....	.....	.....	.....	30.4	.....	13.1	.....	.....	.....	.....

atomic weights. Lothar Meyer has constructed a graphic representation exhibiting the relation of the physical properties of the elements to their atomic weights and volumes. The elements are arranged at distances from the origin along the axis of abscissæ proportional to their atomic weights. The ordinates of the curve indicate their atomic volumes, and the curve the variations of these in their successive order. From the portions of this curve which have been determined, it appears that it represents also variations in the above-mentioned physical properties. It is seen that the position of the elements on the ascending or descending portions of the curve determines their properties, which may thus be very different for bodies possessing nearly the same atomic weight, and yet harmonize in a remarkable manner with the other terms of the theory. The light metals which occupy the summits and contiguous descending parts of the curve are ductile; and the heavy metals at the bottom and lower part of the ascending curve are partially ductile. In the fourth group the ductility is seen to increase and diminish twice in one period of the variations of density. Fusibility and conductivity, with increasing atomic weights, exhibit the same principle of variability. Crystalline form and expansibility by

heat are found also to depend upon atomic weight, according to the same law of periodicity. Fizeau's experiments have proved that the co-efficient of expansion rises and sinks regularly as the atomic weight increases. Dulong's law of relativity between atomic weights and specific heats, probably for lack of exact measurements, can only be determined in cases where atomic weights and atomic volume are both low. Dulong's law is not periodic, the specific heat being uniformly inversely proportional to the atomic weight. Lecoq de Boisbaudran has proved that, in the homologous series of elements, the wave-lengths of the luminous rays which they emit are proportional to their atomic weights. The electro-chemical character of the elements follows the law of periodic variations, the passage from the electro-positive to the electro-negative character taking place in certain groups twice in the same period of density variation. The electro-chemical condition governs the power of combination, to a certain extent; the stable protoxides, for example, being formed with electro-positive metals, and powerful acids rich in oxygen with electro-negative elements. Electro-negative hydrogen, on the contrary, forms its most stable simple compounds with electro-positive elements.

In each of the periodical series the capacity of combining with oxygen seems to increase up to a certain point, and then to decrease. The series headed by silver may be taken as a type of the oxygen compounds formed by the elements in the other periods, the formulæ being here doubled for the sake of uniformity:

Ag_2O ; Cd_2O_2 ; In_2O_3 ; Sn_2O_4 ; Sb_2O_5 ; Te_2O_6 ; I_2O_7 ; OsO_4 ; IrO_2 ; PtO_2 .

The first five members of every period but one follow these types exactly. The variations of affinities for chlorine and hydrogen within the groups are made evident by the following formulæ, combinations with hydrogen being confined to the last four terms of the groups:

Li Cl; G Cl₂; B Cl₃; C Cl₄.

Na Cl; Mg Cl₂; Al Cl₃; Si Cl₄.

C H₄; N H₃; O H₂; F H.

Si H₄; P H₃; S H₂; Cl H.

Dumas, to whom the merit of grouping the elements into natural families belongs, called attention again to Prout's neglected hypothesis in 1879. The French chemist discovered simple numerical relations between the metaloids and some of the families of metals belonging to each group. In the sulphur group, for instance, at the head of which oxygen is now placed, there is a progression representing additions to the atomic weight of the initial body of multiples of a common difference. Starting with oxygen, whose atomic weight is 8, the next member, sulphur, has the atomic weight 16, formed by the addition of the increment 8; selenium has 40, corresponding to the addition of four times this difference to the weight of oxygen; and tellurium 64, an increment of seven times the difference. In the lithium and magnesium groups there are like simple progressions. In the families of fluorine and nitrogen he has established arithmetical relations of a more complex order.

A recalculation of atomic weights, based on the determinations of Stas and other data, has impelled Professor F. W. Clarke, following Mallet and Dumas, to revive the abandoned hypothesis of Prout, according to which the atomic weights of all the elements are multiples of the atomic weight of hydrogen. Among the 65 determined elements when their atomic weights are referred to that of oxygen, in order to avoid the multiplication of the variation of oxygen from Prout's hypothetical law, it is found that 39, as calculated by Clarke, do not vary more than 0.1 from exact multiples of the atomic weight of hydrogen; and of the remaining 26, 3 are almost exact half-multiples; 5 are rare or vaguely determined elements; 2 are subject to the constant error from the occlusion of oxygen, detected by Dumas in the case of silver, potassium, and iodine; 1, thallium, is brought within the limit by a correction of Crookes's calculation; 2, glucinum and ytterbium, can also be brought by a recalculation within the limit; and 1, antimony, is almost an exact multiple of hydrogen, according to a recent analysis of the bromide; for 4,

mercury, chromium, vanadium, and gold, new determinations are wanted; and the remaining 8 are still subject to slight revision. Professor Clarke concludes, then, that as three fourths of the well-determined atomic weights agree with Prout's hypothesis, the seeming exceptions may be due to undetected constant errors, such as have been brought recently to light in some of the most familiar bodies in the entire list of elements.

Maximilien Gerber has sought to determine common factors in the atomic weights of the component members of each of the elemental groups, and has determined empirically certain common divisors in the several groups whose multiples vary but slightly from the experimentally-determined atomic weights. In the group of mono-atomic elements the common factor is 0.769. The alkaline metals, lithium, sodium, potassium, rubidium, and cesium, which combine with oxygen after the type R_2O , and with chlorine according to the formula R Cl , have, excepting the last named, the additional common factor 3. The non-metallic halogens, fluorine, chlorine, bromine, and iodine, are another division of this class, and are likewise multiples of 0.769.

The atomic weight of hydrogen is related to this number in the ratio 10:13, and that of silver is an exact multiple. The di- and tetra-atomic elements have the common divisor 1.995. Oxygen has an atomic weight equal to eight times this number, and the weights of sulphur, selenium, and tellurium are multiples of that of oxygen.

The alkaline-earthly metals, magnesium, calcium, and strontium, which have the combining formula RO , have the quadruple of the original factor for a divisor; but barium, which belongs to the same group, does not. Carbon, silicon, titanium, zirconium, and tin, have only the one common factor. Mercury, molybdenum, tungsten, and uranium, are also multiples of this number. The tri- and penta-valent elements, the group of nitrogen, boron, etc., which form a stable oxide of the type R_2O_3 , and chlorides of the types RCl_3 or RCl_5 , have most of them the common factor 1.559 in their atomic weights. The fourth and most numerous class, combining into the oxides RO and R_2O_3 , have atomic weights which are approximate multiples of 1.245. Gerber's provisional determination of common divisors is found to agree with two recent corrections of atomic weights: that of tellurium, which, as redetermined by Will, is 127.8, a number which accords better with Mendelejeff's scheme; and that of glucinum, which, according to the findings of Nilson and Petterson, should not be classed among the diatomic alkaline-earthly metals, as its oxide is of the type R_2O_3 , as originally established by Berzelius, and its atomic weight must therefore be taken as 13.65.

AUSTRALIA AND POLYNESIA. I. GENERAL STATISTICS.—The area (in square kilo-

metres; 1 square kilometre = 0.386 English square mile) and population of the principal divisions of Australia and Polynesia are given as follows in the new volume of the "Bevölkerung der Erde" (sixth volume, Gotha, 1880):

DIVISIONS.	Area.	Population.
Australia.....	7,696,598	2,173,868
New Zealand and adjacent islands....	272,989	477,344
New Guinea and islands.....	807,956	500,000
Oceanic islands.....	176,184	879,850
Total.....	8,953,727	4,031,000

II. BRITISH POSSESSIONS.—The following table exhibits the area (in English square miles) and population on December 31, 1879, of the Australasian colonies of Great Britain, according to a statistical abstract prepared by the Registrar-General of New South Wales:

COLONIES.	Area.	Population.
New South Wales.....	310,938	734,232
Victoria.....	88,198	899,333
South Australia.....	380,070	259,287
Queensland.....	660,520	217,851
Tasmania.....	26,215	112,469
Western Australia.....	1,000,000	28,663
Total.....	2,474,941	2,251,890
New Zealand.....	105,342	463,729
Total for Australasian Continent	2,580,283	2,715,619

The movement of population in the several colonies was as follows in 1878:

COLONIES.	Births.	Deaths.	Marriages.	Immigrants.
Victoria.....	26,581	12,702	5,092	42,263
New South Wales.....	25,323	10,763	5,817	39,379
Queensland.....	7,397	4,220	1,444	16,139
South Australia.....	9,282	3,749	2,299	14,572
Western Australia.....	871	304	182	322
Total.....	69,459	31,523	14,334	113,180
Tasmania.....	3,503	1,700	864	9,563
New Zealand.....	17,770	4,642	3,385	16,263
Grand total.....	90,731	38,170	43,583	139,011

The financial condition of the colonies in 1879 was as follows:

COLONIES.	Revenue of 1879.	Public debt on Dec. 31, 1879.
New South Wales.....	£4,475,059	£14,937,419
Victoria.....	4,621,520	20,050,753
South Australia.....	1,662,493	6,605,750
Queensland.....	1,461,824	10,196,150
Tasmania.....	375,367	1,786,800
Western Australia.....	193,315	361,000
New Zealand.....	3,134,905	23,958,311
Total.....	£15,927,483	£77,896,183

The commercial statistics for 1879 were as follows:

COLONIES.	Imports.	Exports.
New South Wales.....	£14,198,847	£13,086,319
Victoria.....	15,085,538	12,454,170
South Australia.....	6,014,150	4,762,727
Queensland.....	3,080,889	3,434,034
Tasmania.....	1,267,475	1,301,097
Western Australia.....	407,299	494,883
New Zealand.....	8,374,585	5,743,126
Total.....	£47,878,733	41,276,856

An intercolonial conference of statesmen convened in Sydney, in January, to consider in what particulars and by what methods federal action would at the present time be desirable. It was the continuation of a conference which was held in Melbourne in the latter part of 1880, which discussed an arrangement regarding the border customs between New South Wales, Victoria, and South Australia. Those three colonies alone participated in the former conference. In the present one all the colonies were represented, informally, by prominent administrative officials. It was composed of the following members: Henry Parks, Colonial Secretary of New South Wales, chairman of Conference; Graham Berry, Chief Secretary, and William M. K. Vale, Attorney-General, Victoria; James Watson, Colonial Treasurer, New South Wales; Thomas Dick, Colonial Secretary, New Zealand; William Morgan, Chief Secretary, and C. Mann, Treasurer, South Australia; A. H. Palmer, Colonial Secretary, and Boyd D. Morehead, Postmaster-General, Queensland; W. R. Giblin, Colonial Treasurer, and W. Moore, Colonial Secretary, Tasmania; Chief-Justice Wrenfordsley, Western Australia.

The final federal union of the Australasian colonies has been looked forward to since the release of the principal colonies from crown administration alike by British and colonial statesmen. Confederation might have been accomplished with less difficulty at the time when the right of self-government was first conferred, and before the development of divergent policies. The conflict of policies and diversity of laws since the growth of population and material prosperity has brought the colonies into closer contact afford the real incentive; while constituting a serious practical difficulty, to the movement, which has been begun, toward conformity and federation.

The greatest actual obstacle in the way of a federal union is the opposite commercial policies pursued by the two leading and contiguous colonies, Victoria and New South Wales. Victoria has lived ten years under a tariff framed for the encouragement of domestic industries, and her people tenaciously adhere to the protective idea. Her neighbor and rival, New South Wales, is equally attached to her revenue tariff, and the people are thoroughly devoted to free-trade principles. The less populous colonies incline to the British doctrine, and have constructed tariffs which do not differ greatly from that of New South Wales, and can, without friction, be brought into exact conformity. The Intercolonial Conference did not hesitate to attack the vital subject of a customs union, although an immediate agreement is out of the question. Amid the protests of Mr. Berry at the proposed "insulation" of Victoria, the conference voted that a joint commission be appointed by the autonomous colonies to construct a common tariff.* Vic-

* West Australia is the only Australasian colony which

toria cast the only dissentient vote. This colony may appoint delegates to the tariff commission, but will not be disposed to abandon easily a tariff system under which powerful interests have grown up.

The commercial rivalry between the two older colonies has entered a sharper stage since the completion, in the early part of 1881, of the railroad from Sydney to the Murray River, where it meets the railroad from Melbourne. The New South Wales ministry have fixed the freight rates at a low figure, in order to attract the trade of the extensive Riverina district away from Melbourne to Sydney. This is a reversal of free-trade principles which provokes the sarcasm of the Victorian statesmen; but against its economic effects they can have no remedy except to conform their tariff to that of the sister colony.

The only actual result of the conference, besides the majority vote in favor of a tariff commission, and the only unanimously approved proposition, was the decision in favor of the establishment of an Australian Court of Appeal. A project was drawn up and adopted for a law to be brought before each of the colonial Parliaments, and then submitted for ratification to the Imperial Government. Fugitives from arrest on criminal charges, or men who have abandoned wife or child, may be apprehended, according to one of the provisions of the proposed legal convention, upon warrants taken out in any one of the colonies, or upon telegraphic notification that the warrants have been issued.

The intercolonial conference in discussing plans looking to confederation did not commit themselves to the conjugate principle of self-maintenance, for, on adopting a resolution recommending the increase of the naval squadron, they rejected a proposal that the colonies should bear half the cost. With reference to outrages committed by islanders in the South Seas, the conference proposed that the High Commissioner who has jurisdiction in such cases should be granted extended powers, but that in felony cases appeal should lie to the Supreme Court of one of the colonies against his decisions. The murders of Bishop Patterson and Commodore Goodenough, and more recent outrages committed by the natives of the Solomon, New Hebrides, Santa Cruz, and New Ireland groups, were probably reprisals provoked by the atrocities of the cruisers for laborers to supply the sugar-plantations of Queensland and other demands for "Karnackies." The practice of kidnapping, and other cruelties of this form of slave-traffic, have continued to the most recent years, if they do not still take place.*

remains under the control of the British Parliament and is governed from Downing Street. For the three classes of British colonies see "Annual Cyclopædia" for 1879, under GREAT BRITAIN AND IRELAND.

* During the year 1881 natives of the Pacific islands have taken reprisals on one British labor-ship and on a French vessel which was probably mistaken for a labor-cruiser. The

In regard to Chinese immigration the harmonious action of the colonies is difficult. The Government of West Australia issued an order encouraging this immigration at the public expense—a step which was condemned by the representatives of all the other colonies. Queensland and South Australia, which also possess territory within the torrid zone, favor limited immigration, while in New South Wales and Victoria intense hostility to the Chinese prevails. The conference embodied their objections to the importation of these laborers by the Government into the crown colony of West Australia in a memorial addressed to Lord Kimberly, British Secretary for the Colonies.

The New South Wales Parliament gave their principal attention, upon convening in the summer, to an act restricting Chinese immigration. A poll-tax of ten pounds is levied on every Chinaman upon landing, and ship-masters are forbidden, under a heavy penalty, to bring more than one to every one hundred tons of ship's burden. The Government is also empowered to quarantine, indefinitely, any vessel carrying Chinese passengers—a provision intended as a menace to deter the importation of these unwelcome producers.

By the returns of the late census it appears that the area of wheat cultivation in Australia has doubled in ten years. South Australia leads in this product. The Australian crop is only one third as great as that of the British Islands, although the area sown is nearly the same. Only about one half of the crop is available for export, and the prices must be high enough to amply remunerate the British wheat-grower before the Australians can export wheat to Europe with a profit. The prospects of gold-mining in all of the colonies are better than they have been for years. New fields have been opened on the northern coast of Australia. In New South Wales new diggings of remarkable richness have been discovered. The opening of gold and tin mines in Tasmania has given that colony a commercial impulse, and produced an influx of capital and immigration such as never were known before.

The revenues of New South Wales continue to increase beyond current wants from the sales of land. The revenue for the year ending March 1, 1881, exceeded that of the preceding year by £1,080,000. The revenue for the fiscal year 1880 was £4,912,000. The Treasurer's estimate for 1881 was £5,440,000, which was considerably exceeded in the receipts for the first half of the year, and promised to reach £6,000,000.

outrages committed by the crews of labor-vessels, notably the brig *Carl*, were made the subject of a Parliamentary investigation eight years ago, and measures were taken by the British Government to suppress the evil. The employers of Polynesian coolies in Queensland are obliged, under a law of the colony, to return them, on the expiration of their term of service, to their native islands. The familiar term for the South Sea coolies among Australians, *Karnackie*, is a corruption of Kanaka, the native name for the Sandwich Islanders.

The population was found by the census to exceed 750,000, showing an increase of 250,000 in the ten years. Owing to its vast area of attractive land, it has gained upon the much smaller but still more populous colony of Victoria, the difference between their populations having fallen in the ten years from 250,000 to 100,000. The debt of New South Wales amounts to about £15,000,000; but of this at least £12,000,000 is invested in railroads.

The enormous railroad construction which has been carried out by the Government in New South Wales received its first impetus from the circumstance that the Government found coming into its hands large sums of surplus revenue derived from the sales of public lands which the prosperous sheep-graziers, who had rented them of the Government at $\frac{1}{4}$ d. an acre, commenced to buy in vast blocks at the upset price of £1 per acre. The railroad system, well started with these means, has been extended by loans raised in London. At the beginning of the year, 679 miles of new road were under construction, and surveys for further extensions had been made.

The railroad earnings in 1880 were £1,594,000, being £89,000 more than the Treasurer's estimate, and yielding $4\frac{1}{2}$ per cent on the capital invested. A still larger profit was expected in 1881.

Victoria has for the last four years been passing through a constitutional crisis. Conflicts between the two Houses of the Legislature mark the advances in popular self-government made in the British colonies. In the transition from crown administration to autonomy, the Council, composed of appointees of the crown, is the vehicle through which the Government refuses the popular demands emanating from the representative hall. Under responsible government the Legislative Council is balanced against the popular Assembly as the representatives of the property-holding class, the conservators of the interests of wealth, and the only repository of the veto-power and check upon immature and democratic legislation. This branch thus represents an entirely different constituency from that of the Assembly, which body is elected on the broad basis of universal suffrage. Party majorities in the Upper House for this reason, and because the Councilors hold their seats much longer than delegates in the Assembly, do not change with the transfer of power in the Lower House and the consequent change of ministers. Frequent "dead-locks" are the unavoidable result. The whole political machinery is clogged, useful legislation is rendered impossible, and political passions are excited simply through this defect in the Constitution. This unwholesome condition of affairs has become chronic of late years in the prosperous and democratic colony of Victoria. Mr. Berry, the Premier and Liberal leader, has brought in various bills for the popularization of the Legislative Council. An active Reform League has kept the question before the pub-

lic, and pressed it in the Legislature. The Liberal party made it their sole issue, and were supported by a great popular majority. The Legislative Council and their electors were naturally loath to abandon the only conservative safeguard—the right of those who hold a stake in the country to control the will of the absolute numerical majority.

For four years the ministry were supported by the people in demanding a reform, until all grew tired of the fruitless agitation. An appeal had even been made to the Imperial Government. In March Mr. Berry introduced into the Assembly a final compromise measure, reducing the tenure of seats in the Council, one third of which should be refilled every three years, from ten to six years, and lowering the limitations of the franchise. The bill passed the Legislative Assembly but was rejected by the Council, March 25th, on the ground that a bill affecting the powers and composition of that House should originate there. The Council had itself passed a reform bill of its own. The subject was next discussed in a joint committee, but without result. The Berry bill was finally, considerably altered by the amendments, passed by the Council in the middle of May. The measure reduces the property qualification for Councilors to £100, and fixes the qualification for freehold electors at £10, and for occupiers at £25 annual rental. The qualifications for electors and candidates under the old law were respectively a freehold of £50 and one of £250 annual value. The number of electors is increased by this sweeping reform from 32,000 to 108,000, and the number of members from thirty to forty-two. There are supposed to be only about 80,000 citizens, who vote for members of the Lower House, that are not possessed of sufficient property to qualify them as electors of members of the Council.

The reform act which was the final outcome of the long struggle was not satisfactory to the people. The Legislative Council had given up the limited franchise to the extent of reconstituting itself on nearly as broad a basis of popular representation as the Lower Chamber. It had abandoned the controlling voice of property; but it had not sacrificed any part of its co-equal legislative authority. The public looked upon the reform act as an extension rather than a curtailment of the powers of the Council. It was supposed to contain no remedy for the "dead-locks," which were the actual ground and reason for reform. As a result of the popular disappointment in the measure, the Legislative Assembly in the beginning of July passed a vote of want of confidence in the ministry. The Governor refused to dissolve Parliament, and, upon the resignation of Berry and his colleagues, called upon Sir Bryan O'Loughlen to form a Cabinet, in which, after some difficulty and delay, he succeeded.

The returns of the decennial census place the population of Victoria at 845,977, composed of 438,186 males and 407,791 females.

These numbers are exclusive of 11,835 Chinese and 770 aborigines. Melbourne, the capital, has a population of 65,675. The cities or towns in the colony with a population of over 20,000 are the following: Ballarat, 22,425; Collingwood, 23,797; Emerald Hill, 25,178; Fitzroy, 22,979; Prahran, 20,306; Richmond, 23,294; and Sandhurst, 28,128. In 1836 the population of the whole colony was 224; in 1838, 3,511; in 1841, 11,738; in 1846, 32,879; in 1851, 77,345; in 1861, 540,322; in 1871, 731,528; in 1881, 858,582.

The gold-mining industry of Victoria has within a year or two begun to show slightly increased activity and profits. The quantity of gold produced in 1880 was 829,121 ounces, 529,195 from quartz-mines and 299,196 from alluvial mines, being 70,173 ounces more than the total of 1879. The number of miners employed was 38,568, an increase of 1,000. The number of Chinese employed has diminished of late years; in 1880 there were 8,486—624 less than in 1879. The engines used in quartz mining give 16,438 horse-power in the aggregate, and those employed in alluvial mining 6,041 horse-power. In the mines at Stawell the shafts have reached from 1,220 to 2,410 feet below the surface. The principal improvement in the returns of 1880 was in the quality as well as the quantity of the quartz crushed. There are 3,630 auriferous reefs known. Alluvial deposits, which are covered over by eruptive rocks, are located by boring through the thick overlying basalts with the diamond drill. The considerable increase in the product is said to be due to the use of this tool, which was first tried in 1880. £16,894 was paid into the colonial Treasury for mining privileges in 1880. The aggregate production of gold in Victoria since the first discovery of the gold-fields has been more than \$1,000,000,000.

The ministry of South Australia handed in their resignations March 19th, and a new Cabinet was formed by William Morgan, in which J. H. Symon was Attorney-General; G. S. Swan, Treasurer; and Thomas Playford, Commissioner of Lands and Immigration. This ministry resigned in June, and were succeeded by John Cox Bray, Chief Secretary and Premier; John W. Downer, Attorney-General; Lavington Glyde, Treasurer; Alfred Catt, Commissioner of Crown Lands and Immigration; and John Langdon Parsons, Minister of Education. The finances, as in all the Australian colonies, are in a prosperous condition. The revenue for the year ending June 25th exceeded that of the preceding year by £165,000.

Queensland has abandoned the policy pursued by the other colonies, of building railroads with state means, and adopted the American plan of subsidizing private corporations with belts of land along the route of lines constructed by them. On such conditions an English company has undertaken to build a railway across Queensland to the Gulf of Carpentaria.

Tasmania is growing in population, but its imports from the United Kingdom in 1879 decreased by £36,416 as compared with 1878. They also decreased from the Australian colonies. The wool-clip had gained 16 per cent as compared with the weight in 1874. Gold-mining was never so productive as in 1879. The average number of persons employed in it was nearly twice the number in 1878; the quartz yielded the highest average of the last ten years; and the value of the gold produced, £230,895, was more than double the value of the previous year. The exports of other products were less than in the two preceding years. Tasmania has still twelve and a half million acres of arable public land unsold to distribute among agricultural immigrants; the average of land under cultivation in 1879-'80 was considerably less than half a million acres.

The question of the monopoly of the land by large sheep-raisers is one of exciting moment in some of the Australian colonies, particularly New Zealand. Of a total area in both islands of 64,000,000 acres, there are about 44,000,000 acres adapted for tillage or pasture, of which 16,000,000 belong to the Maoris and their assignees, 14,000,000 have been sold to Europeans, and 14,000,000 remain the property of the Government. Nearly the whole of the Government land is farmed out on terminable leases to about nine hundred sheep-farmers, who pay for their licenses an annual sum to the Government of about £110,000. The terms on which the crown lands are open to purchase are not similar in different land districts, but discouraging in all. In some sections the lands are offered at public auction, with the limitation of an upset price of £1; in others at private sale, but at the minimum price of £2. A popular feeling has naturally arisen against the large sheep-runs whose owners seem to be favored by the laws, which is taking political shape in a demand that the public lands should be offered to settlers on inviting terms. The expectation that this would result in a great extension of agriculture and dependent industries is not likely to be realized. Wool is destined to remain for some time the only profitable product, the prices of meat and grain being exceedingly low and wages high. There are in the whole colony not above 800,000 acres sown to crops of all kinds. There are about 13,000,000 sheep in New Zealand, chiefly merinos, with a mixture in the plains of the standard British breeds. The exports of wool, for the year ending March 1st, amounted to over £3,500,000. Among the exports for the same year figure six million or more rabbit-skins, valued at some £57,000. These animals have so multiplied in certain districts as to become a source of danger to the sheep-growing industry, and the Government has consequently co-operated with the local authorities in a plan for exterminating them by poison. A special official employs men to scatter in their way grain

steeped in phosphorus. The only other risk the sheep-grazer has to encounter is the occasional occurrence of inundations. Of the "squatters" who raise sheep on the public land some possess flocks numbering 200,000 or 300,000, one as many as 500,000, and a considerable number owning from 50,000 to 100,000 sheep.

In the autumn an outbreak of the Maori population was threatened. The cause of the trouble was the survey of territory occupied by natives, preliminary to opening it to white settlement. It was a district in the province of Taranaki which was declared confiscated by the Government after the Waikato war. In the confiscated territory, Te Whiti, a chief who has been converted to Christianity and passes for a prophet among the natives, fixed his residence and gathered the discontented natives around him. The same man championed the cause of natives who were expelled from their lands two years before, and nearly brought about a collision between them and the Government. The danger of an outbreak was still more imminent this time, but was averted by the prompt capture and arrest of the instigator.

The British possessions in the Pacific have been increased by the annexation of the Island of Rotumah, which has been placed under the direction of the Governor of the Feejee Islands. The new dependency has an area of about twenty-four square miles, and contained in 1871 2,680 inhabitants. A massacre was perpetrated by the Christian natives of Tapitawa, one of the Equator Islands, under the leadership of a convert named Kabu. The victims were the inhabitants of the southern portion of the island, who had renounced Christianity, and refused to submit to the rule of Kabu.

AUSTRO-HUNGARIAN MONARCHY, an empire in Central Europe. Emperor, Francis Joseph I, born August 18, 1830; succeeded his uncle, the Emperor Ferdinand I, December 2, 1848. Heir-apparent to the throne, Archduke Rudolphus, born August 21, 1858; married on May 10, 1881, to Stéphanie Clotilde, second daughter of the King of Belgium, born May 21, 1864.

The Ministry for the Common Affairs of the Empire consisted, toward the close of the year 1881, of Count Kalnoky, Minister of Foreign Affairs and of the Imperial House (appointed 1881); Joseph von Szlavy, Minister of the Finances of the Empire (appointed April 8, 1880); and Count Arthur Bylandt-Rheidt, Minister of War (appointed 1876).

The Ministry of Cisleithan Austria, at the close of 1880, was composed of Count Eduard Taaffe, President (appointed August 14, 1879); Baron Pino, Justice (1881); Baron Sigmund Conrad von Eybesfeldt, Public Worship and Instruction (1880); Count Zeno von Welsersheimb, Defense of the Country (1880); Count Julius von Falkenhayn (August 14, 1879), Agriculture; Dr. Alois Prazak, Commerce (1881);

Dr. Julian Dunajewski, Finance (1880); Florian Ziemialkowski (April, 1873).

The area of the entire monarchy is 622,837 square kilometres; population, according to the census of 1880, 37,741,413. The area of Cisleithan Austria, or Austria proper, is 300,249 square miles; the population, according to the census of 1880, was 22,130,684. The population of the different crown-lands, according to the census of 1869 and that of 1880, was as follows:

COUNTRIES.	1869.	1880.
Austria below the Enns	1,990,708	2,329,021
Austria above the Enns	736,557	760,379
Salzburg	153,159	163,566
Styria	1,137,990	1,212,367
Carinthia	337,694	348,670
Carniola	466,334	481,176
Trieste	127,547	144,437
Goritz and Gradisca	206,244	210,241
Istria	266,734	295,854
Tyrol	782,753	805,326
Vorarlberg	103,036	107,364
Bohemia	5,146,544	5,557,184
Moravia	2,017,274	2,151,619
Silesia	513,352	565,772
Galicia	5,444,689	5,953,170
Bukowina	513,404	569,599
Dalmatia	453,611	474,439
Total	20,396,630	22,130,684

The population of the principal cities and towns, according to the census of December 31, 1880, was as follows:

Vienna (without suburbs)	707,532
Prague	159,502
Lemberg	103,000
Grätz	93,351
Brün	91,869
Cracow	60,679
Pilsen	38,132
Linz	35,317
Czernowitz	31,200
Reichenberg	27,300
Laybach	24,940
Budweis	23,064
Salzburg	22,325
Neustadt (Wiener)	21,637
Iglau	21,565
Olmütz	20,124
Goritz	19,433
Trappau	19,239
Innsbruck	19,133
Prossnitz	19,013
Steier	16,919
Klagenfurth	16,670
Aussig	16,503
Marburg	17,623
Teplitz	15,634
Warnsdorf	15,082

In accordance with the political constitution of the Austrian Empire, there are three distinct budgets: the first, that of the delegations for the whole empire; the second, that of the Reichsrath for Austria proper; and the third, that of the Hungarian Diet, for the kingdom of Hungary. By an agreement, or so-called "compromise," entered into in February, 1868, between the Governments and Legislatures of Austria and Hungary, the former has to pay seventy and the latter thirty per cent toward the common expenditures of the empire, not including the interest on the national debt. The common budget of the empire for 1880 was as follows:

REVENUE.		Florins.
		(1 florin = 48 cts.)
Ministry of Foreign Affairs.....		632,880
“ of War.....		2,708,775
“ of Finance.....		1,860
Supreme Court of Accounts.....		286
Customs, net receipts.....		5,000,000
Matricular contributions:		
From Hungarian Treasury.....		2,155,537
“ Cisleithania (70 per cent).....		73,844,006
“ Transleithania (30 per cent)....		31,686,889
Total.....		116,029,683
EXPENDITURES.		Florins.
Ministry of Foreign Affairs.....		4,158,900
Ministry of War:		
Army.....		101,599,531
Navy.....		8,264,902
Ministry of Finance.....		1,880,850
Supreme Court of Accounts.....		125,500
Total ordinary expenditures.....		116,029,683
Extraordinary expenditures.....		12,506,533
Total.....		128,536,216

The budget estimates for 1880 for Austria

proper gave the net revenue at 301,109,093 florins, and the expenses at 425,551,018 florins. The floating debt of the whole empire on January 1, 1880, amounted to 411,999,923 florins. The public debt of Austria proper on January 1, 1880, was as follows:

TITLE OF DEBT.	Bearing inter-est.	Bearing no interest.	Total.
Consolidated debt..	2,890,260,487	117,428,351	3,007,688,838
Floating debt.....	132,993,107	862,838	133,855,945
Rentes for damages	12,549,208		12,549,208
Rentes to Bavaria..	1,750,000		1,750,000
Total.....	3,037,552,707	118,291,189	3,155,843,956

The commerce of Austro-Hungary, comprising imports and exports of merchandise and of bullion, was as follows in each of the years from 1870 to 1878 (value expressed in Austrian florins):

YEAR.	AUSTRO-HUNGARIAN CUSTOMS TERRITORY.				CUSTOMS TERRITORY OF DALMATIA.	
	Merchandise.		Bullion.		Imports.	Exports.
	Imports.	Exports.	Imports.	Exports.		
1870...	436,000,000	395,400,000	41,000,000	34,100,000	9,200,000	6,600,000
1871...	540,800,000	467,600,000	59,400,000	55,500,000	8,600,000	7,500,000
1872...	613,400,000	384,600,000	36,500,000	66,100,000	9,200,000	6,900,000
1873...	583,100,000	423,600,000	40,900,000	31,100,000	9,700,000	6,100,000
1874...	568,700,000	449,300,000	19,900,000	18,900,000	10,300,000	6,500,000
1875...	552,500,000	504,500,000	16,100,000	18,700,000	13,400,000	10,400,000
1876...	518,000,000	508,600,000	35,300,000	30,900,000	13,800,000	8,200,000
1877...	546,700,000	550,600,000	30,500,000	15,500,000	13,900,000	8,600,000
1878...	596,700,000	599,700,000	52,600,000	15,700,000	18,600,000	5,900,000

The following statement shows the strength of the commercial marine of Austro-Hungary on the 1st of January, 1880:

CLASSES OF VESSELS.	Number of vessels.	Tonnage.	Crews.
Sea-going steamers (16,000 h. p.).	72	58,604	2,287
Coasting steamers (996 h. p.) ...	32	1,677	217
Sailing-vessels, including coasters and fishing-smacks	8,122	270,391	24,972
Total.....	8,226	330,612	27,426

The army in 1880 consisted, on a peace footing, of 16,635 officers and 275,571 men; and on a war footing, of 29,653 officers and 1,013,953 men.

The naval force at the end of the year 1879 was 58 vessels, of 16,086 horse-power, and 320 guns. The total length of railways in operation on January 1, 1880, was: in Austria proper, 11,352 kilometres; in Hungary, 7,029; total, 18,381. The length of the telegraph wires and lines, and the number of stations, and the messages sent, were in 1878 as follows:

	Austria.	Hungary.	Total.
Lines.....	34,603 kil.	14,329 kil.	48,932 kil.
Wires.....	88,331 “	50,072 “	138,453 “
Stations	2,484	960	3,444
Messages	5,533,331	2,832,259	8,370,590

The following table shows the length of railroads built during the past fourteen years (in kilometres):

YEAR.	Austria.	Hungary.	Total.
1867.....	180·14	123·19	303·32
1868.....	460·16	378·62	838·78
1869.....	731·05	183·23	864·34
1870.....	862·71	739·78	1,602·38
1871.....	1,207·55	921·32	2,128·88
1872.....	1,154·41	974·72	2,129·13
1873.....	835·17	863·71	1,703·88
1874.....	332·93	171·92	504·86
1875.....	674·28	2·85	677·13
1876.....	443·66	284·19	727·86
1877.....	477·94	73·56	551·51
1878.....	47·04	217·76	264·80
1879.....	77·16	59·73	136·94
1880.....	40·13	20·08	60·21

The breach between the Constitutional party and the ministry, which had assumed so large proportions in 1880, continued during the year 1881, and Count Taaffe was forced still more than in 1880 to look for support from the Right. The first result of this policy was the resignation of Baron Streit, the Minister of Justice, and Ritter von Kremer, Minister of Commerce, who were succeeded, the former by Baron Pino, and the latter by Dr. Prazak. Count Taaffe met an unexpected obstacle in his desire to depend upon the Right, in the Herrenhaus, or House of Lords. To overcome this he created twelve new life-members, of whom four were Poles, two Czechs, and six Clericals or Conservatives, all factions of the Right being represented.

A new feature in the struggles of the German and Slavic nationalities was the proposition to transform the old German University of

Prague, one of the earliest in Germany, into a bilingual establishment; or, leaving the University of Prague in its old position, to establish a new Czech university. The efforts of the Czech party were directed in 1880 to getting its teachers gradually introduced, and a resolution was passed by the House authorizing the Government to ask from it the grant of money necessary for this purpose. In the estimates presented for 1881 no such grant was asked for. Upon the demands of the Czech party, the Government appointed a commission to investigate the feasibility of the plan. The matter was settled by an imperial order in April, providing that henceforth two separate universities should exist under the common name of "Carolo-Ferdinanda," in one of which the medium of instruction shall be the German, and in the other the Czech language. The two faculties of Philosophy and Law were to be in readiness by October 1st. On May 15th the Government presented to the Chamber two bills relating to this matter. One related to the legal status and the course of study, while the other provided for the necessary credits for creating the two Czech faculties. The sum necessary for this purpose was set down at 23,000 florins for the current year. The first bill provided, among other matters, that all property belonging to the university, or to any of the faculties, should in future be regarded as the common property of both universities, or of the respective faculties. A student can not be immatriculated in both universities, but a student of one shall be at liberty to attend the lectures of the other, and these lectures are to be credited to him as if he had attended them in his own university. The bill was passed on May 31st, after a motion making it compulsory upon every student at the new Czech university, who should intend entering a public profession, to have a perfect knowledge of the German language, had been rejected.

In the early part of the year a bill was introduced in the Lower House by Herr Lienbacher of the Clerical party, providing that in future any provincial Diet should have the power of decreasing the term of compulsory school attendance, which heretofore had been eight years. The bill was supported by the Autonomist party, who thought in this way to increase the autonomy of the several crown-lands, and was strongly opposed by the Constitutional party. It passed the Lower House with a majority of 13, but was rejected by the Herrenhaus by the decisive vote of 74 to 32, a vote which was entirely unexpected, as it was thought that the recent creation of new life-members had given the ministry who supported the bill a majority in this House.

On March 11th Count Coronini, the President of the Lower House of the Reichsrath, resigned his seat in that House. In his letter of resignation, Count Coronini, who belongs to the Constitutional party, declared that he had endeavored to do his duty according to his best

belief, but that the conscientious fulfillment of duty did not insure success. He did not think that he could interpret the events that had taken place in the House of late, otherwise than by concluding from them that he no longer possessed the confidence of the House. He had become painfully aware that, in these circumstances, he could no longer be of service to the House, and he had, therefore, decided to give up his position. As the rules of the House did not allow of his resignation, and as he was not certain that the House would accede to his request to relieve him from the office, he had chosen the only course open and had resigned his seat. His seat was filled by the election of Dr. Smolka, the First Vice-President, while Prince Lobkowitz was elected to fill the latter post, so that the presidency, as well as both vice-presidencies, had now passed into the hands of the majority.

The session of the Reichstag was closed by the Government in June.

The continual anti-German policy of the Government brought about a union of the two factions of the Liberal and Constitutional parties into a German party, a union which was heartily approved by Dr. Herbst, the leader of the Constitutional party.

In April the Emperor sanctioned a measure empowering the Cisleithan ministry to raise a 5 per cent loan of 50,000,000 florins, which amount was required to make up the deficit in the last budget of this half of the empire. The loan was at once subscribed, and twenty-five times over, the amount actually offered being upward of 1,250,000,000 florins. The real amount of the issue was 54,347,800 florins, the price being at 92.

The foreign relations of the empire during the year were of the most friendly character. In August the Emperor met Emperor William of Germany at Gastein, and the usual demonstrations of friendship were made, while the meeting was said to be without any political significance.

On October 27th, King Humbert and Queen Margharita of Italy arrived in Vienna on a visit to the imperial family. It did not transpire what occurred at this meeting, but it was generally agreed that the greatest political significance was to be attached to it. It was regarded as marking the admission of Italy to the Austro-German alliance, while it was thought that at the same time questions relating to the estates of the deposed princes of Naples and Parma, who were closely related to the imperial family of Austria, were definitely settled. They were received with great demonstrations of friendship, and on their return the Emperor accompanied them as far as Venice.

The era of good feeling between the empire and Italy, which seemed to have been brought about by the visit of King Humbert, was threatened by some remarks made during a debate in the Hungarian delegation. At a committee-meeting, which was held with closed doors,

after Baron von Kallay, a chief of department in the ministry of foreign affairs, had stated that, in spite of the Irredenta movement, Austria entertained the most cordial relations toward Italy, Count Andrassy, who was at the time looked upon as the probable successor of Baron Haymerle, was thereupon reported to have stated, in the course of a speech, that he no longer feared the Irredenta movement, since the bond between the monarchy and Germany had become so strong. If the movement should lead to a war between Austria and Italy, and the latter country should be defeated, it might bring about serious consequences for the royal house of Italy. These remarks caused considerable excitement, and it was even stated that the Italian ambassador was about to ask for his passports. In the full meeting of the Hungarian delegation of November 8th, Baron von Kallay declared the report of the meeting with these remarks to be incomplete, and added that he had laid particular stress upon the friendly relations brought about by the late visit of King Humbert, which seemed to have been received with satisfaction by all classes of the Italian population. Count Andrassy called to mind the fact that he had accompanied the Emperor to Venice, and that during his term of office he had kept up friendly relations with Italy.

The meeting of the Emperors of Germany and Russia at Dantzic, in September, called forth considerable surprise in Austria. But the prevailing feeling was that it would tend to strengthen the Austro-German alliance, and the Government hastened to give expression to this feeling in a dispatch to the Emperors at Dantzic, declaring its satisfaction at the meeting.

The assassination of the Emperor of Russia called forth expressions of sympathy from the Emperor. In the Upper House of the Reichsrath, the President gave expression at its first session to the feelings of abhorrence of the House at the crime. He said the event was the more painful, on account of the indication it gave of the existence of a dark but wide-spread conspiracy, threatening to undermine the principles of society, which the Upper House was bound to stand in the front rank to defend. The President, in conclusion, called upon the members present to rise from their seats in order to testify to the sorrow they experienced at this event, as well as to the sympathy they felt with the grief which filled the heart of the Austrian monarch, who in the Emperor Alexander II had lost a true friend. The President's remarks were warmly applauded. In the Lower House, however, the Poles declared that they could not vote for any resolutions of regret, and the new President, Smolka, a member of the Polish party, refused to permit any resolution of the kind to be discussed.

The monarchy suffered a severe loss in the death of Baron Haymerle, who died suddenly on October 10th, of apoplexy (see HAYMERLE).

He succeeded Count Andrassy as Minister of Foreign Affairs in 1879, and had continued to hold the office. This vacancy was filled by the appointment of Count Kalnoky, the former ambassador to Russia.

The victory of the Czechs in the university question was followed by excesses in Prague. Attacks were made on several occasions by the Bohemian students upon the Germans, and it was necessary for the authorities to interfere in behalf of the latter. The Ministry of Education, upon the recommendation of the senate of the university, ordered a suspension of the lectures for the summer, and a strict investigation. A number of Czech journals, which attempted to continue the agitation, were confiscated. Other excesses took place later in the year, in consequence of which the administration of the crown-land was placed in the hands of Field-Marshal Kraus, who had been up to that time the military governor.

The Czech excesses in Prague called forth the greatest indignation among the German population of the empire, notably in Vienna, where the Common Council passed resolutions condemning those excesses, while the language employed by the Liberal journals of that city was so strong as to cause the suspension of the latter.

A demand was made by the Czechs, that as Vienna was the capital of a state containing many different nationalities, of whom the Czechs formed a large part, that Czech teachers be employed in the public and industrial schools of that city. This demand was promptly met and denied by the Town Council.

The City Council of Prague, which is entirely in the hands of the Czechs, ordered that the children of Bohemian parents who were attending German schools should be removed from them. The councils of other communities passed similar resolutions, and, in consequence of the troubles arising therefrom, the matter was brought before the Provincial School Council. This body annulled the order of the city councils, and declared that it rested entirely with the parents to which school they wished to send their children.

On August 12th the Czech National Theatre in Prague was completely destroyed by fire a few days before it was to be opened. This conflagration called forth the deepest sympathy in all parts of the monarchy, and the Germans particularly tried to show, by their sympathy and their contributions to the collection which was taken up for its restoration, that they bore no ill-will to their Bohemian neighbors, and that it was their earnest desire to do away with the struggle between the different nationalities.

The marriage of the Crown Prince Rudolph to Stéphanie, the second daughter of the King of the Belgians, took place on May 10th, in Vienna. The ceremony was performed by Cardinal-Prince Schwarzenberg, Archbishop of

Prague, in the chapel in the Burg, the Imperial Palace, in the presence of the King and Queen of the Belgians, the Prince of Wales, the Prince and Princess of Prussia, and many others of high rank. The day was given up to public festivities, and the wedding called forth the greatest demonstrations of joy, not only on the part of the Viennese, but throughout the empire. After the ceremony, the bridal pair set out on a tour of the provinces, and were everywhere received with demonstrations of affection.

The Archduke Rudolph Francis Charles Joseph, Crown Prince Imperial of Austria, Crown Prince Royal of Hungary and Bohemia, was born August 21, 1858. He is the son and second child of the Emperor Francis Joseph and of the Empress Elizabeth, who was a daughter of Duke Maximilian of Bavaria.

Princess Stéphanie Clotilde Louise Marie Charlotte, second daughter of King Leopold II of the Belgians, and Queen Marie, a daughter of the Archduke John of Austria, Palatine of

Hungary, was born at Laeken, Brussels, on May 21, 1864.

Vienna was visited on December 8th by one of the most disastrous conflagrations on record. The Ring Theatre was completely destroyed by fire, during which nearly one thousand persons were supposed to have lost their lives. The fire broke out at ten minutes before seven, when the theatre was already comfortably filled, and spread rapidly. In the rush for escape which ensued, the passages and doors became blocked, making exit an impossibility, especially from the galleries, and when the firemen entered the building they found heaps of dead bodies everywhere.

The Austrian census is taken at irregular intervals. The last census was taken on December 31, 1880, the one previous to that in 1869. It contains, as in almost all other European countries, only statistics of population. The population of Vienna, according to the last census, was 707,532, an increase of about 100,000 upon the population of 1869.

B

BACON, LEONARD, D. D., a distinguished American Congregationalist clergyman, born in Detroit, Michigan, February 19, 1802; died in New Haven, Connecticut, December 24, 1881, having nearly completed his eightieth year. His father was a missionary to the Indians in the then "great West," and died in 1817, leaving three sons and four daughters. Leonard's preparatory education was at the Hartford school, and in 1817 he entered the Sophomore class in Yale College. Among his classmates was Theodore D. Woolsey, afterward President of Yale, and a life-long friend and fellow-worker. Having been designated for a minister from the first, he entered Andover Seminary in 1820, where he prosecuted his theological studies for four years. In March, 1825, he was ordained after the Congregational pattern, and invited to the pastorate of the First Congregational Church of New Haven, the oldest society of this denomination in that city. Among his predecessors had been Moses Stuart, professor at Andover, and Dr. Taylor, professor in the theological seminary at New Haven. The position thus entered upon by the young and ardent minister was retained by him for forty-one years, when (in 1866) he was made Professor of Theology in Yale College. He was also appointed lecturer on ecclesiastical history and American Church history. In March, 1874, he was moderator of the council which met in Brooklyn, New York, and took part in pronouncing a rebuke to Henry Ward Beecher's society for expelling Theodore Tilton without a formal trial. In February, 1876, he was moderator of the advisory council called by the Plymouth society in regard to the not altogether savory

scandal, well known throughout all the country. Dr. Bacon was an active worker in periodical literature as well as in the special duties of his profession. From 1826 to 1838 he was one of the editors of "The Christian Spectator," a religious magazine published in New Haven. In 1843 he aided in establishing "The New-Englander," a bi-monthly, and kept up his connection with it to the end of his life. He was also one of the founders of "The Independent," in 1847, in company with Drs. Storrs and Thompson. For sixteen years he was one of the regular working editors, but in 1863 he retired from the active management of this journal, though frequently contributing to its columns. Besides his industrious labors in connection with journalism, Dr. Bacon published a number of books: "Life of Richard Baxter" (1830); "Manual for Young Church Members" (1833); "Thirteen Historical Discourses, on the Completion of Two Hundred Years from the Beginning of the First Church in New Haven" (1839); "Slavery discussed in Occasional Essays from 1833 to 1838" (1846); "Christian Self-Culture" (1863); "Introductory Essay" to Conybeare and Howson's *St. Paul* (1868); and a large number of addresses, etc., before colleges, which have been separately published. Dr. Bacon was an admirable type of the American Congregationalist in both theory and practice. He was a man thoroughly in earnest, and entirely settled and certain in his convictions. Consequently, he was at times rather dogmatic, and very severe upon his opponents, especially "prelatical" folks, whether Episcopal or Presbyterian. There was an inherent love of polemics in him, and he enjoyed hugely the giving some people a

good hammering with his pen. Few topics escaped his attention, and he took an active interest in political and social questions, quite as much so, in fact, as in those usually considered to belong to the ministerial profession. This was shown in his opposition to the early abolitionists of the Lloyd Garrison type, his earnest advocacy of the colonization scheme, his joining the Free-Soil party, his strong siding with the Union cause when secession became decided, his vigorous support of the movement which secured the repeal of the "omnibus clause" of the Connecticut divorce law, etc. Leonard Bacon will hold an honorable place in the records of the nineteenth century, and it may be doubted if there be any one in the Congregationalist body who can adequately supply his loss.

BAGLEY, JOHN J., ex-Governor of Michigan, died in San Francisco, California, July 27, 1881, having gone to the Pacific coast in pursuit of health. He was born in Medina, Orleans County, New York, July 24, 1832, his father being a native of New Hampshire and his mother of Connecticut. His school education was obtained at Lockport, New York. At the age of thirteen he went with his father to Michigan, settling at Constantine, in St. Joseph County, where for a brief period his time was divided between a clerkship in a village store and farm-work. At the age of fifteen he found his way to Detroit, and secured employment in a tobacco-factory, and when twenty-one years old engaged in the same line of business for himself, continuing therein, either as sole proprietor, partner, or stockholder, until his death, accumulating a large property. He was also largely interested in other manufacturing corporations, and for some years was vice-president of a national bank. He served Detroit as a member of the Board of Education, as alderman, and as a member and president of the Board of Police Commissioners. In 1868-'69 he was chairman of the Republican State Central Committee, gaining great credit in conducting the campaign of the former year. In 1872 he was nominated as the Republican candidate for Governor, and was elected by a large majority, running ahead of the Grant electors. He was re-elected in 1874. During his administration he was the firm friend of the charitable and educational institutions of the State, and urged legislation for the promotion of their interests—which he regarded as the interests of the State—while his words of official commendation were supplemented by liberal contributions, especially to the university and to the State Public School for Dependent Children. To his recommendation as Governor the State owes the change in its method of dealing with the liquor-traffic—from a dead-letter constitutional and statutory prohibition to effective taxation and restraining legislation. In January, 1881, he was a candidate for United States Senator for the term commencing March 4th, but was defeated in the Republican legislative

caucus by a single vote. In 1855 he was married to Frances E. Newberry, daughter of a pioneer missionary, who, with six children, survives him. Governor Bagley was a liberalist in religion, and was actively identified with the Unitarian Church at Detroit.

BANK SHARES, NATIONAL, SALE AND TAXATION OF. A provision of the National Banking Act makes it unlawful for a national banking association to loan money upon, purchase, or acquire its own stock, except to prevent loss on a debt previously contracted. A shareholder, who has parted with his shares to the bank, can in the event of subsequent insolvency be proceeded against the same as the other shareholders. The question whether an innocent person who has sold his shares, without suspicion that the bank was the purchaser, is held under that clause of the law, was before the courts for two years, and was finally decided by the Supreme Court at Washington in May. One Laffin sold shares of the National Bank of Missouri to a broker, to whom he delivered the certificate with a transfer power signed in blank, as is customary in stock-sales. The broker was the agent of the president of the bank, who received the certificate and paid for it with his individual check. He was acting for the bank, and the shares were entered on the books in the name of a clerk, and paid for out of the bank's funds. Two months later the bank failed. The receiver applied to the court to have the sale declared void. It was argued that, notwithstanding the good faith of the seller, the transfer was void because there was no legal purchaser, and also that as shareholder he had constructive notice of the bank's part of the transaction and of its insolvency. Justice Field's opinion states that the same rules hold in the case of national-bank shares which govern the sales of other corporation stocks. The delivery of the stock certificate, with blank transfer power indorsed, and the receipt of the price, completed the sale. The transfer on the books was not needful for passing the title. The validity of the sale, without the fraudulent complicity of the seller, was not affected by the subsequent illegal transaction.

A number of Federal court decisions have been made relative to the State taxation of national-bank shares which favor the State side of the question. In the German National Bank *vs.* Kimball, in Illinois, the Supreme Court refused an injunction against the tax, ruling that the person who wishes to resist a tax as unequal, must first tender so much of the tax as is just. In the same State a suit was brought in the Circuit Court, complaining of the law of 1880 under which the assessments were made as granting exemptions to stockholders of corporations other than banks. The court held that it was not the true effect of the law to discriminate against bank-shares. In Ohio the Circuit Court ruled that compulsory process may be issued by the State courts, requiring the officers to make an exhibit of the accounts

of the bank, in order that the tax-officers may assess the deposits.

BAPTISTS. The "American Baptist Year-Book" gives a summary of the regular Baptist churches of the world, of which the following are the totals for the several continents:

CONTINENTS.	Associations.	Churches.	Ordained Ministers.	Members.
North America.....	1,152	26,945	17,163	2,388,632
South America (Brazil) ..	3	2	214	214
Europe.....	61	3,028	2,111	326,950
Asia.....	3	520	288	42,072
Africa.....	1	60	44	3,603
Australasia.....	4	143	95	7,918
Total.....	1,221	30,699	19,703	2,760,389

The whole number of Baptists in the United States, including all the branches of the Baptist family, may be represented, according to the most complete accessible statistics, as follows:

	Churches.	Ordained Ministers.	Members.
Anti-mission Baptists.....	900	400	40,000
Baptists (regular).....	26,060	16,596	2,296,327
Church of God (Winnebrennarians).....	400	350	30,000
Free-Will Baptists.....	1,471	1,294	79,851
Mennonites.....	120	90	20,000
Seventh-day Baptists.....	84	80	8,548
Six-principle Baptists.....	20	12	2,000
Tunkers.....	500	1,200	50,000
Total.....	29,555	20,022	2,526,732

I. REGULAR BAPTISTS IN THE UNITED STATES.

—The statistics of the regular Baptist churches in the United States, as given by the "American Baptist Year-Book" for 1881, will be found in the table at the head of the next column.

The number of additions during the year by baptism were 102,724; number of Sunday-schools, 13,492, with 116,355 officers and teachers, and 926,979 scholars. Total amount of benevolent contributions, \$4,389,752.

The "Year-Book" gives lists of seven theological institutions, with 37 instructors and 430 students for the ministry; thirty-one colleges and universities, with 280 instructors and 4,609 students; forty-eight academies, seminaries, institutes, and female colleges, with 350 instructors and 5,522 students in the United States; and sixty-eight weekly, semi-monthly, monthly, and quarterly periodicals in the United States and Canada.

The anniversaries of the Northern Baptist societies of the United States were held at Indianapolis, Indiana, beginning with the meeting of the *American Baptist Publication Society*, May 19th. The receipts of this society for the year had been \$326,820 in the business department and \$94,317 in the missionary department, making a total of \$421,137, and showing an increase in both departments of \$71,573 over the receipts of the previous year. Fifty-seven new publications had been issued during the year, making the present number of publications on the society's cata-

STATES.	Associations.	Churches.	Ordained Ministers.	Members.
Alabama.....	68	1,684	1,080	164,784
Arizona.....	..	1	1	14
Arkansas.....	47	1,118	616	52,798
California.....	7	99	78	6,076
Colorado.....	2	24	14	1,239
Connecticut.....	6	119	125	21,618
Dakota.....	1	21	18	781
Delaware.....	..	11	12	2,004
District of Columbia....	2	18	23	8,319
Florida.....	18	327	207	17,997
Georgia.....	118	2,755	1,630	235,381
Idaho.....	..	1	4	43
Illinois.....	44	927	707	69,124
Indiana.....	30	557	343	42,029
Indian Territory.....	4	98	84	5,915
Iowa.....	26	408	274	24,186
Kansas.....	21	441	309	17,648
Kentucky.....	71	1,710	1,006	163,696
Louisiana.....	32	755	428	57,702
Maine.....	13	262	176	21,018
Maryland.....	1	48	42	8,306
Massachusetts.....	14	289	328	48,764
Michigan.....	18	352	307	27,285
Minnesota.....	9	154	112	7,056
Mississippi.....	59	1,537	831	122,369
Missouri.....	70	1,449	839	95,967
Nebraska.....	10	188	77	4,855
Nevada.....	..	2	1	110
New Hampshire.....	7	84	90	9,077
New Jersey.....	5	178	200	31,936
New Mexico.....	..	1	1	20
New York.....	44	877	801	114,094
North Carolina.....	77	1,905	1,063	172,951
Ohio.....	81	633	469	49,950
Oregon.....	5	74	50	2,957
Pennsylvania.....	23	547	463	63,585
Rhode Island.....	8	61	77	10,821
South Carolina.....	44	1,126	642	140,442
Tennessee.....	52	1,317	806	110,847
Texas.....	81	1,910	1,111	107,573
Utah.....	..	1	1	16
Vermont.....	7	114	79	9,870
Virginia.....	32	1,346	718	207,559
Washington.....	2	17	18	424
West Virginia.....	12	381	203	25,239
Wisconsin.....	14	181	135	11,881
Wyoming.....	..	2	2	101
Total.....	1,130	26,060	16,596	2,296,327

logue 1,326. Arrangements were in progress for the preparation of a series of commentaries on the New Testament under the supervision of Professor Alvah Hovey, D. D., of Newton Theological Seminary. In the missionary department, thirty-seven colporteurs and thirty-two State Sunday-school missionaries had been at work in forty-three States and Territories. Increased attention had been paid to the circulation of the Scriptures, of which 13,481 copies had been given away and many thousand copies sold. The German Baptist Publication House employed, with the aid of the National Bible Society of Scotland, twenty-two colporteurs, and had circulated 37,000 Bibles and Testaments, besides large quantities of tracts and other publications in Germany. A Sunday-school Institute was held in connection with the anniversary of the society, at which efforts were resolved upon for establishing Sunday-schools among the colored people of the Baptist churches.

The forty-ninth annual meeting of the *American Baptist Home Mission Society* was held May 24th. The total amount of the receipts for the year had been \$235,032, or \$69,580 more than had been received in the previous

year. The sum of \$33,160 had been added to the trust and endowment funds, and \$12,245 to funds on which annuities were paid. The operations of the society had been enlarged, particularly in the West, and 392 missionaries had been sustained, being 111 more than were employed in the previous year. Of these missionaries, 209 had labored among Americans, 40 among Germans, 30 among Scandinavians, 6 among French, 11 among Indians, 21 among freedmen, and 3 among Chinese. Eleven schools had been sustained, which employed 63 teachers and were attended by 1,649 scholars. Twelve hundred and two churches and out-stations, having 16,279 members, had been supplied, 61 churches organized, and 554 Sunday-schools, with an attendance of 29,090, cared for by the missionaries. The number of schools among the freedmen had been increased, by the addition of the schools at Selma, Alabama, and Live Oak, Florida, to ten. Among their students, 367 had the ministry in view. The students had paid a larger sum for tuition than ever before; and the freed people had contributed for the purposes of the schools \$2,000 in Alabama, nearly \$1,000 in South Carolina, \$400 in Florida, and \$2,000 in Texas and the Southwest; and they were raising funds in Georgia for the erection of a building at Atlanta for the education of young women. An institution was to be established at Marshall, Texas, to be known as "Bishop College." The "Indian University" at Tahlequah, Indian Territory, which had been opened about a year before, had been attended by fifty-seven students, five of whom were studying for the ministry. The establishment of a school at Ogden, Utah, as a means for acquiring influence among the Mormons, was recommended. Preparations had been made to resume the work of the society in Mexico, which, first begun in 1869, had been suspended in 1876.

The anniversary of the *American Baptist Missionary Union* was held May 21st, the Rev. George D. Boardman, D. D., presiding. The total receipts of the society for the year had been \$313,774, of which \$24,971 were for invested funds, leaving \$288,803 applicable to its general purposes. The appropriations had amounted to \$300,653, so that the accounts showed a deficit of \$11,850. The condition of the several missions is exhibited in the following table:

MISSIONS.	Mission- aries.	Native preachers.	Churches.	Members.
Burmah.....	92	447	432	21,968
Assam.....	19	55	36	1,616
Teloogoos.....	22	82	38	17,017
China.....	26	46	39	1,492
Japan.....	11	13	5	133
Sweden.....	..	154	306	19,501
Germany.....	..	290	184	26,656
France.....	..	15	9	786
Spain.....	..	3	5	146
Greece.....	..	1	1	7
Total.....	170	1,106	1,005	89,272

Total number of persons baptized during the year, 9,143. Reports were made concerning editions of the Bible and the New Testament in Burman, Karen, Shan, Telinga, the Garos language, Japanese, and the colloquial dialect of Swatow, China.

Recommendations were adopted that it should be made an object to place the Bible in the hands of every Christian family in the missions any of whose members can read or can be easily taught to read, and the New Testament in the hands of children in the Sunday and day schools; to encourage the circulation of the Bible among nominal Christians who can read, with special efforts to induce them to read it, while taking care at the same time not to place the book in the hands of those who will wantonly destroy it.

The *Southern Baptist Convention* met at Columbus, Mississippi, May 5th. The Rev. P. H. Mell, D. D., was chosen president. The Foreign Mission Board reported that its receipts had been \$46,820, and that the debt of the previous year had been paid. An application had been made for the appointment of missionaries to Cuba, and the Secretary of State of the United States had been asked whether such missionaries would be protected and tolerated. The Secretary had replied that they would be protected as citizens, but that no assurance could be given in advance as to the action of foreign authorities toward the missionaries themselves or in respect to their work. The reports of the condition of the several missions may be summarized as follows: *Mexico*: Thirteen churches had been organized, of which five had been afterward disbanded, leaving eight churches, with 200 members. The missionary, Rev. J. O. Westrup, had been murdered in December, 1880, and a successor to him was to be appointed. *Brazil*: Three missionaries, two churches, 44 members. *Africa* (Lagos, Abbeokuta, and Ogbomosho): five missionaries, 92 members. *China* (Tung Chow, Shanghai, and Canton): 12 missionaries, 18 native assistants, 543 members, 190 pupils. *Italy*: Four foreign missionaries, 10 native evangelists, 11 stations, 175 members. Efforts had been made to secure the co-operation of the colored Baptists of all the States in prosecuting African missions, but with only partial success. The Home Mission Board had received and expended \$27,869. A church with ten members had been organized in San Francisco, California, in connection with the Chinese mission at that place. Buildings had been erected for the Levering Indian Institute in the Creek nation, and the school would be opened in the fall. The missionaries of the board had labored in eight States, where their work was supplemented by that of the missionaries of the State Conventions. They had themselves supplied 59 churches and 48 other stations. Three hundred and fifty women's societies had collected \$6,000 for the purposes of the convention.

A Missionary Convention of Colored Baptists of the South was held at Montgomery, Alabama, in the last days of 1880, and organized the *Baptist Foreign Missionary Convention of the United States*, the object of which was declared to be to give the Gospel to the people of Africa and elsewhere through missionary and educational work. A scheme for home missionary work was also devised. The convention was attended by delegates from Arkansas, Alabama, Florida, Georgia, Louisiana, Mississippi, Ohio, Tennessee, Texas, and Virginia.

II. SEVENTH-DAY BAPTISTS.—The sixty-seventh annual meeting of the *Seventh-Day Baptist General Conference* was held at Farina, Illinois, beginning September 21st. Joshua Clarke presided. Two new churches were admitted to membership in the conference, and a third church had been partly organized. A small increase was reported in the number of members of the church. The number added by baptism had been greater than in any previous year for a long time past, and the additions by letter had exceeded the dismissals, but the number of exclusions had been unusually large. The number of Sabbath-schools was 94, with 6,913 persons attending them as officers, teachers, and scholars. A committee which had been appointed to co-operate with the friends of civil liberty in Pennsylvania for the exemption of Sabbath-keepers from the penalties of the Sunday laws of that State, made a report of its work. It had solicited essays in support of its efforts from men of several denominations and from professional men, and had secured many expressions of sympathy, but had not succeeded in getting any formal papers prepared on the subject; and it had obtained a large number of signatures to petitions. A few persons declined to give their support to the movement because it did not go as far as they would have it, in that it did not seek the unconditional repeal of the Sunday law. A bill to protect "religious liberty" was introduced in the Legislature of Pennsylvania by Mr. H. Gates Jones, and was supported by public meetings and addresses prompted by the committee, but was opposed by persons who were unwilling to tolerate any relaxation of the Sunday laws of the State; and it failed to pass in the Senate by lacking one vote of receiving a constitutional majority, although twenty-five votes were cast in its favor to fifteen against it. The Committee on Denominational History reported that a complete history was in course of preparation.

The *Seventh-Day Baptist Missionary Society*, whose anniversary was held in connection with the General Conference, had sustained home and foreign missions. The home missions returned 20 missionaries and missionary pastors laboring in 11 States, with 29 churches and 43 other preaching stations supplied, 26 Bible-schools, and 212 "Sabbath-keeping" families. The foreign mission is at Shanghai, Chi-

na, and returned one missionary and his wife and one missionary teacher, two native preachers, one Bible woman, one Sabbath-school and two day-schools, a church of about twenty members, and missionary buildings valued at \$7,400. The subject of extending missionary work in Holland beyond the bounds of the church at Haarlem was under consideration.

III. OLD OR GENERAL BAPTISTS OF RHODE ISLAND.—The two hundred and eleventh anniversary of the Old or General Baptists of Rhode Island was held in Coventry, September 7th, 8th, and 9th. The Rev. J. Porter was moderator. The body consists of twelve churches, containing in all about 1,200 members. The churches reported no special revivals, "but fair interest and general 'steadfastness.'"

IV. THE BRETHREN, OR TUNKERS.—The Brethren are represented in twenty States. Their churches return 1,578 ministers, 306 of whom are in Pennsylvania, 248 in Indiana, 227 in Ohio, 142 in Illinois, and 133 in Iowa.

The regular *Annual Meeting* of the Brethren, or Tunkers, was held at Ashland, Ohio, in June. As in former years, much of the time of the meeting was spent in answering queries from district meetings in regard to the mode of dress. It was decided that a church letter ought not to be given to a member who does not dress in the uniform of the church; that only those who conform to the order of dress be appointed on committees to settle difficulties arising on this subject; that those only who dress themselves and wear their hair according to the regulations should be appointed delegates to the annual meeting, in which such only are permitted to speak; that sisters may wear coats of a certain pattern (formerly prohibited), and that they ought not to wear hats. One of the journals of the denomination noticed as signs of the advances which the Brethren were gradually making toward conformity with modern ideas, that the meeting was held in the "Campus" and "under the very shadow of a Brethren's College," and that the standing committee held its sessions in one of the recitation-rooms of the college, "in which there stood at the self-same time a musical instrument—even a forte-piano"; also that a collection was taken for the building of a meeting-house and parsonage in Denmark, a thing that would not have been tolerated on the grounds of the annual meeting sixteen years before. These movements toward conformity with the world have resulted in the formation of three parties among the Brethren: the "Progressives"; those who contend for the old order; and those who occupy a middle position, and deprecate, on the one hand, departures from the established order of the Brethren, and, on the other hand, intolerance of differences and too rigid adherence to unessential matters.

A convention of Old-Order Brethren held in Maryland adopted a protest against the course

of the annual meeting in tolerating "grave departures from ancient principles," and a platform of principles, among which were declarations in favor of baptism by trine immersion, "both administrator and candidate going into the stream, accompanied by the laying on of hands and prayer in the water, there being no gospel for baptizing either sick or well persons in a mechanical vessel, in a house or outside"; feet-washing by the double mode; the Lord's Supper a full meal; sisters to have their heads covered with the plain white cap, brethren to have their heads uncovered in time of praying or prophesying; "plainness in all things by all, and uniformity in non-conformity to the world; . . . colleges and high-schools, being of the world, belong not to the church, nor to the humble followers of Christ"; Sunday-schools not of Gospel authority; "taxation for missionary purposes unscriptural; salaried or paid ministry unscriptural, as understood by our ancient brethren; special educational preparation for the ministry not according to the Gospel, as understood by our ancient brethren"; no life insurance; no oath-bound or secret orders; non-resistance; non-swearing; brethren not to be permitted to engage in political affairs by voting and holding oath-bound offices under the civil laws. The several churches and meetings have been considerably agitated in consequence of these differences.

V. BAPTISTS OF THE MARITIME PROVINCES.—The thirty-sixth annual convention of the *Baptists of the Maritime Provinces* met at Yarmouth, Nova Scotia, August 20th, and was attended by an unusual number of delegates. F. H. Rand, LL. D., was chosen president. The statistical reports showed that 1,260 persons had been baptized during the year. The convention sustained three foreign mission stations in the Teloo goo country of India, at which eight converts had been baptized since the previous year's report. The income of the Board of Missions had been \$5,400, and its expenditures \$6,150. The Board of Home Missions had employed 48 missionaries, who supplied 86 churches and 206 out-stations at an outlay of \$5,204. The "convention scheme" of finance, which contemplates the raising for benevolent purposes of a sum equivalent to a dollar a person for the entire membership of the churches, had been nearly successful.

VI. PARTICULAR BAPTISTS IN GREAT BRITAIN AND IRELAND.—The annual meetings in connection with the *Baptist Union of England and Ireland* were held in London in April, beginning on the 26th. The Rev. Henry Dowson was chosen president of the Union for the year. The financial reports showed that the number of churches and of single members contributing to the funds of the Union had considerably increased. A resolution on public affairs was adopted expressing satisfaction with the domestic and foreign policy of the Government, the belief that it would persevere in its determina-

tion to do what is just and right, and the assurance that if it pursued that course it would have the support of the masses of the people. A petition to Parliament was adopted in favor of the suppression of the opium-trade. A petition coming from members of the Universities of Oxford and Cambridge asking that the Baptist Union, in connection with the Congregational Union, would arrange for the delivery of lectures or sermons in the university towns on the principles of non-conformity, was referred to a committee.

The managers of the Baptist Building Fund had granted thirty-five loans, amounting to £8,032, and reported twenty-two new chapels opened and six chapels enlarged and improved. The receipts of the Bible Translation Society had been £2,392. The invested capital of the Baptist Annuity Fund had been increased to £78,000.

The Union met in its autumnal session at Portsmouth, October 26th, and was opened by President Dowson with an address on "Spiritual Life in Connection with the Assemblies and Operations of the Union."

The eighty-ninth annual meeting of the *Baptist Missionary Society* was held in London, April 26th. The receipts of the society had been £51,459, the largest amount of income reported in its history. Of this amount £11,915 had been contributed for special purposes, including £4,000 given by Mr. Arthington, of Leeds, for the Congo mission, and £3,421 which had been given by the churches for the benefit of sufferers by a cyclone in Jamaica. The missions of the society are in India, Ceylon, China, Japan, Africa, the West Indies, and Jamaica, and parts of Europe, and returned 95 missionaries and assistants wholly, and 18 partly, supported by the society, 61 pastors of self-supporting churches, 258 evangelists, 536 stations and sub-stations, 3,373 persons baptized during the year, 38,397 members, 172 teachers, 5,815 day-scholars, and 5,828 Sunday-scholars.

In India, two editions of the New Testament in Bengali (one with references), and one edition in Hindi, had been completed, and a large number of Scriptures and tracts in the Kaithi language had been printed. The revision of the Singhalese New Testament, begun in 1876, had been completed. The thirty-two native churches in Shansi and Shantung were all self-supporting and ministered to by Chinese pastors, and had received a large number of converts. In Western Africa a branch station from Bukundu had been established, nearly a hundred miles in the interior. The missionaries to Central Africa had not yet reached their destination at Stanley Pool, on the Congo, but had labored with effect in San Salvador and the neighboring towns.

VII. GENERAL BAPTISTS IN GREAT BRITAIN.—The one hundred and twelfth annual meeting of the *General Baptist Association* was held at Norwich, June 21st. The Rev. Dawson Burns presided. Reports were received from 154

churches of 1,368 additions by baptism, of a clear increase of 441, and a total of about 26,000 members. The receipts for foreign missions had been £7,766, and the expenditures £8,518.

A "Local Preachers' Conference" was held during the meeting of the association, at which a paper was read on the need of increased and better organized local preachers' work in the churches. The establishment of home-mission centers, to be under the direction of the conference to which they belong, was recommended. In a Sunday-school conference, the establishment of weekly services for children, a union for young converts, and special evangelistic services, were recommended. Numerous services for children of the kind suggested were already held weekly in London, Liverpool, and Paris. The "association letter" on the adaptation of the church to the wants of the times, suggested that such modifications in creed and practice as were made necessary in the light of modern discoveries should be accepted, that a wider policy should be allowed in baptism, and that open fellowship should be permitted. Another "association letter" was read upon the subject of "open fellowship."

BEACONSFIELD, EARL OF. (See DISRAELI, BENJAMIN.)

BELGIUM, a kingdom of Europe. Leopold II, King of the Belgians, born April 9, 1835, is the son of King Leopold I, former Duke of Saxe-Cobourg, and ascended the throne at his death, December 10, 1865. He was married August 22, 1853, to Marie Henriette, daughter of the late Archduke Joseph of Austria (born August 23, 1836), who has borne him three daughters. The heir-apparent to the throne is the brother of the King, Philip, Count of

Flanders, born March 24, 1837, lieutenant-general in the service of Belgium, who was married, April 26, 1867, to Princess Marie of Hohenzollern-Sigmaringen (born November 17, 1845), and has two sons, Baldwin, born July 3, 1869, and Albert, born April 8, 1875. The oldest daughter, Princess Louisa, born February 18, 1858, was married on February 4, 1875, to Prince Philipp, Duke of Saxe-Cobourg and Gotha.

The area of this kingdom is 29,455.16 square kilometres (1 square kilometre = 0.386 square mile) or 11,373 square miles. The population, according to the census of December 31, 1876, was 5,336,189, and in December, 1879, according to a calculation based upon the movement of population, 5,536,654. The following table exhibits the population of each province at the close of 1878:

PROVINCES.	Pop. in Dec., 1879.
Antwerp.....	569,279
Brabant.....	993,596
Flanders, West.....	698,761
" East.....	886,776
Hainault.....	982,402
Liège.....	659,803
Limburg.....	211,694
Luxemburg.....	210,553
Namur.....	324,510
Total.....	5,536,654

The population of the principal cities on December 31, 1879, was as follows: Brussels, 170,345; Antwerp, 163,011; Ghent, 132,839; Liège, 121,787; Bruges, 44,833; Malines, 41,328; Verviers, 40,362; Louvain, 35,090; Tournay, 32,832; Courtrai, 27,061; Saint Nicolas, 25,698; Namur, 25,792; Seraing, 25,046; Mons, 24,696; Alost, 21,631.

The movement of population from 1873 to 1879 is shown in the following table:

YEAR.	Marriages.	Births, Deaths,		Still-born children.	Surplus of births.	Total population on December 31.
		Inclusive of still-born.				
1873.....	40,598	178,491	120,656	7,783	57,835	5,253,821
1874.....	40,328	181,728	117,345	7,750	64,383	5,386,634
1875.....	39,050	183,301	130,229	7,749	53,072	5,403,006
1876.....	38,228	184,845	124,717	7,930	60,128	5,336,135
1877.....	36,962	183,122	122,314	8,045	60,508	5,412,731
1878.....	36,669	180,451	125,462	7,721	47,679	5,476,939
1879.....	37,421	182,743	129,202	8,142	53,581	5,536,654

Of the total births in 1879, 168,724 were legitimate, and 14,059 were illegitimate. The number of divorces amounted to 151.

The number of representatives in the Lower House of the Chambers is 132, the number of senators is 66. In order to be eligible for election to the Chamber of Representatives, it is necessary to be twenty-five years of age, and a citizen of Belgium. On the other hand, no one is eligible to the Senate who does not pay direct taxes to the amount of 1,000 florins (2,116 francs). Under this law there are at present but 507 Belgians eligible to the Senate. The number of persons entitled to vote at general elections was, in 1881, 116,090.

The public debt on August 1, 1880, was as follows:

	Francs.
Two and a half per cent debt.....	219,959,632
Three per cent loans from 1873 to 1878.....	383,707,100
Four per cent debt (1871 to 1879).....	672,741,532
Four per cent loan of 1880.....	184,719,000
Rentes funded at 3 per cent.....	1,409,635
Rentes funded at 5 per cent.....	7,611,960
Five per cent annuities to the Netherlands....	2,539,680
Annuities for repurchasing railroads at 4½ per cent.....	318,511,878
Total.....	1,741,200,267

The immigration into Belgium has since 1871 always exceeded the emigration from the country. In 1879, there were 14,234 immigrants and 12,474 emigrants.

The budget for the years 1879 and 1880 estimated receipts and expenditures as follows (in francs):

I. RECEIPTS.	1879.	1880.
1. Direct taxes.....	44,413,000	44,110,000
2. Indirect taxes.....	102,735,500	105,624,500
3. From means of communication (railroads, telegraphs, post, etc.)	103,922,600	110,272,400
4. Miscellaneous.....	10,101,000	10,005,000
5. Reimbursements.....	3,263,160	3,485,160
Total receipts.....	264,435,260	273,497,060
II. EXPENDITURES.		
1. Public debt.....	77,990,229	79,024,246
2. Dotations.....	4,699,475	4,647,475
3. Ministry of Justice.....	15,901,169	16,042,309
4. Ministry of Foreign Affairs.....	2,073,110	2,133,435
5. Ministry of the Interior.....	9,306,273	9,529,883
6. Ministry of Education.....	14,254,599	16,541,122
7. Ministry of Public Works.....	84,240,352	86,682,163
8. Ministry of War.....	44,040,000	44,162,700
Budget of the gendarmery.....	3,410,000	3,488,200
9. Ministry of Finance.....	15,242,110	15,380,010
10. Reimbursements and outstanding debt.....	1,187,000	1,187,000
Total expenditures.....	272,344,317	278,818,548

The special commerce with foreign countries in 1878 was as follows (values in francs):

COUNTRIES.	Imports.	Exports.
Russia.....	129,685,000	22,935,000
Sweden and Norway.....	28,836,000	6,775,000
Denmark.....	2,241,000	2,203,000
German Customs Union.....	222,108,000	200,025,000
Bremen.....	1,167,000	589,000
Hamburg.....	13,339,000	19,565,000
Netherlands.....	186,937,000	146,147,000
Great Britain.....	194,252,000	249,598,000
France.....	323,161,000	329,355,000
Portugal.....	2,066,000	5,723,000
Spain.....	22,739,000	18,804,000
Italy.....	6,247,000	13,109,000
Switzerland.....	999,000	19,152,000
Austria.....	1,400,000	2,943,000
Turkey.....	12,166,000	5,036,000
Africa.....	3,898,000	3,965,000
Asia.....	10,747,000	5,725,000
United States.....	175,867,000	9,307,000
Cuba and Porto Rico.....	1,921,000	5,942,000
Hayti and Venezuela.....	4,844,000	.....
Brazil.....	20,969,000	23,610,000
Uruguay.....	15,872,000	898,000
Rio de la Plata.....	53,989,000	6,989,000
Chili and Peru.....	85,930,000	11,370,000
Other countries.....	1,884,000	2,382,000
Total.....	1,472,764,000	1,112,352,000

The transit trade in the same year amounted to 897,347,000 francs.

The movement of shipping in Belgian ports in 1878 was as follows:

AT ALL PORTS.	No. of vessels.	Tonnage.
Total vessels entered.....	6,505	3,184,747
Total vessels cleared.....	6,326	3,124,796
Steamers entered.....	4,143	2,447,820
Steamers cleared.....	4,119	2,414,468

The length of railways in operation at the close of 1879 was 4,012 kilometres. The length of telegraph-wires was 23,572 kilometres, and of lines 5,410 kilometres. The number of stations was 708, and the total number of dispatches 3,242,615. The number of post-offices was 638; of letters (ordinary, registered, and insured), 69,026,949; of newspapers, 69,712,000; of printed matter, 28,041,000; of postal-cards, 16,720,652; and of official correspondence, 10,841,141.

The Chamber of Deputies, which adjourned December 24, 1880, resumed its sittings on the 25th of January. The conflict between the Church and the Liberals, on the educational question, continued in and out of Parliament. By the gain of a seat by the Clericals, the Liberal majority in the Senate was reduced to four. A parliamentary investigation into the condition of schools and the character of the instruction imparted excited the indignation of the Clericals, who appealed to the article of the Constitution which leaves it free to any one to open a school and receive pupils. The purpose of the investigation was to show by the testimony of experienced pedagogues and school-inspectors, whose judgment would have weight in the country, that the schools which had been hastily established everywhere by the clergy to compete with the state schools, were taught by incompetent and ignorant persons. The majority in Parliament were moved, by the obstructions cast by the Church party in the way of the new system of education, to take reprisals in the form of a reduction of the budget of Public Worship.

The Minister of Justice, by request, laid before the Chamber of Deputies a statement of the amount of the stipends paid to the clergy as compared with 1832. There are 4,997 of the lower clergy, whose salaries amount to 4,384,937 francs, against 2,335,795 for 3,870 stipendiaries fifty years ago. The lower clergy consists of 91 parish priests of the first and 140 of the second class, 2,804 curates, 179 chaplains, 1,667 vicars, and seven coadjutors, with ten chaplaincies and ninety-nine vicarships unfilled. The higher clergy and seminaries draw from the state 321,000 francs against 235,232 in 1832.

In the discussion upon the proposed revision of the annual fund for ecclesiastical maintenance, Minister Bara laid down the principle that the granting of the budget for Public Worship was purely a state act, to be determined from motives of public policy, and that it was based upon no convention between the Church and the state. Jacobs, the Clerical champion, argued on the contrary that the budget was a poor and inadequate indemnity repaid to the Church for the property of which it was robbed in the Revolution. The Government refrained from retaliating the hostilities of the clergy by cutting down the salaries of the bishops and the parochial clergy. A motion of the Radicals to do this was voted down by 95 to 26 majority. In the budget, which was voted in March, a large aggregate reduction was effected by abolishing chaplaincies, suppressing the pay of supernumerary assistant clergy, and withholding the annual grants to the ecclesiastical seminaries. The last retrenchment was justified on the ground that these institutions have abundant revenues of their own. Bara announced that the care of souls in the army would devolve upon the parochial clergy. The army he declared to be no more in need of re-

ligious ministers of its own than the judicial bench or the Legislative Chamber. If the parish vicars in the garrison towns refused to extend their spiritual ministrations to the military, their pay would be stopped. A provision in the budget cuts off the salary or stipend attached to any place in which a foreign priest officiates who has not received the permission of the Government.

The Government declared, in response to an interpellation, in May, that no overtures had been made by the Vatican toward the reopening of diplomatic relations. During King Leopold's visit to Vienna, on the occasion of his daughter's wedding, he met the former nunzio, Vanutelli, in the presence of his cabinet-chief, Frère-Orban, but was not approached on the subject of resuming diplomatic intercourse.

An angry controversy broke out among the Clericals between the extreme Ultramontanes, represented by Professor Périn, of Louvain, and the moderate portion. The former held persistently to the doctrine advanced in the Syllabus of Pius IX, and would not acknowledge the secularized Belgium, in which the therein defined relations to the Church were disregarded, to be a legitimately constituted state. The Clerical representatives in Parliament were bitterly assailed for accepting the new order of things and seeking a *modus vivendi* with the state. This contest called forth a reproof from Pope Leo, who significantly admonished the Catholics of Belgium that the Church, while maintaining unalloyed its holy teachings and principles of jurisprudence, preserves always a "discreet attitude," has "due regard for the right mode suited to the time and place," and often finds itself obliged "to submit to evils which it finds it almost impossible to prevent without exposing itself to still worse evils and complications." The bishops felt impelled by the Pope's letter to remove Périn, the pragmatist upholder of the Syllabus, from the chair of Civil Law in the University of Louvain.

A law has been made providing that the glebe-lands shall be administered in the same manner as the other state demesnes, and may also be alienated by the Government. Clergy who have received the revenues of the church estates are to be paid entirely out of the public treasury. The vicar Yserbyt, and villagers of Heule, near Courtrai, who created a disturbance in the latter part of 1880, were sentenced to prison.

President Guillery, of the House of Deputies, was overruled by the vote of his own party on a question of order, March 10th, and conceiving the action of the House to be an infraction of his authority, he resigned. A member of the Right had stated that the army had resented partisan orders of the War Minister. The president accepted as sufficient a declaration of the member, Woeste, that he would retract the words, but still held to the opinions; but the House demanded a completer apology for the

insult to the army. The Deputies elected in Guillery's place Descamps, the first vice-president.

The Government carried a measure for the reorganization of secondary schools. A proposal brought forward by the advanced Liberals to abolish religious instruction in the middle-class schools was not accepted by the Government, and was defeated in the Chamber. The motion was to rescind the provision of the law of 1850, according to which the clergy are invited to impart religious instruction in secondary schools, and leave religious teaching to the families of pupils.

The Government has established 12 additional colleges and 100 intermediate schools, 56 for boys and 44 for girls.

The election registry for 1881 contains about 9,000 names less than in 1879, the number of voters in a total population of 5,536,654 souls being 116,090. A large number of names were dropped from the lists in 1880, and an additional number in 1881, on the ground that the omitted persons did not pay the amount of taxes which legally qualifies them for the franchise. They were mostly peasants and men in holy orders. At the rate of progression which took place anterior to this strict construction of the law, the number of voters would be 131,000 or over. The lists of communal electors have, by a like rigorous application of the election laws, been reduced from 384,549 names in 1879 to 373,666 in 1881. The fees for naturalization have been reduced by Parliament from 1,000 and 5,000 francs for the two grades, to half those amounts.

In the summer an agitation was commenced in favor of universal suffrage, or for the establishment of an educational instead of the tax qualification. Mass-meetings were held in Brussels, Antwerp, and elsewhere. The Radical, Janson, demanded in the Chamber that the Government show its colors on this question. For communal and provincial elections to begin with, the abolition of the limitation or the substitution of an intellectual test was asked for. The Minister of Finance replied that the question was not yet ripe, that the Constitution prescribed the *cense*, and that if the matter were carried before the country the Liberal party would be divided and the Clerical opposition would succeed to the helm. The subject was brought forward again when a law relating to the provincial assemblies was under consideration. The Prime Minister proposed to defer Janson's proposition, to which the mover agreed; but the seconder, Dufuisseaux, deserted by his friends, felt called upon to resign his seat. An extension of the franchise would benefit the Clerical and Social-Democratic parties; for which reason the Liberal ministry, though not opposed to the reform, will not take the step without cautiously measuring the effects. The elections of delegates to the municipal councils in October resulted in a marked victory for the Liberals.

Stéphanie, daughter of the King of the Belgians, was married, May 10th, to the Crown-Prince Rudolph of Austria. (See AUSTRIA.)

The Minister-President, Bounder de Malsbroek, was transferred in January from Copenhagen and Stockholm to Washington.

The German commercial treaty of 1865 was renewed, and is to continue in force until one year after one of the contracting powers has given notice of dissolving it.

Count Auguste Van der Straaten-Ponthoz was transferred from his post at the Hague to succeed the venerable Baron Nothomb (see OBITUARIES) at Berlin. Baron d'Anethan, former Belgian representative at the Vatican, was appointed minister to the Hague.

The latest law for military organization provides for an army of 46,277 men, including all officers, police, and non-combatants, with 10,014 horses and 204 guns, in time of peace; and for a war force, of 103,683 men, not counting officers, gendarmery, etc., with 13,800 horses and 240 guns. The army comprises 18 line regiments of infantry, with 3 line and 1 reserve battalion each, and 1 rifle regiment with 4 line and 2 reserve battalions, every battalion consisting of 4 companies, and the company of 100 men in peace and 225 in war, exclusive of officers. The cavalry consists of 8 regiments, of 4 line and 1 reserve squadron each, the squadron having 120 horses in time of peace and 154 in war. The field-artillery consists of 2 regiments with and 2 without mounted batteries, each regiment containing 10 batteries of 6 guns, with 94 men and 64 horses in time of peace and 155 men and 152 horses on a war-footing. There are 3 regiments of standing artillery of 18 batteries, each battery being manned with 78 men in peace and 176 in war; 1 engineer regiment of 3 battalions with 10 companies each, 85 men strong in peace and 300 strong in war. The Belgian Citizens' Guard, or militia, has 120,000 men enrolled, of which 30,000 are active. The King, in an address on the occasion of the opening of the new dock at Ghent, declared that the secure establishment of national military defenses ought to keep even pace with the advancement in material prosperity, referring to the development of a strong military reserve, which has been the aim of the Belgian Government for many years.

BI-METALLIC STANDARD. The International Monetary Congress, which was held in connection with the Paris Exposition of 1878, having produced no practical result, the Government of France endeavored during the two years following to initiate a movement for bringing the nations together for some more formal action. France and other members of the Latin Union still maintained the double, or bi-metallic, monetary standard; Great Britain persisted in the single gold standard, except for India, where silver constituted the currency; Germany, having recently adopted the gold standard, continued to dispose of her

surplus stock of silver; and the United States, which had resumed the coinage of legal-tender silver dollars, was apprehensive of derangement of her financial system by a further decline in the value of silver. France and the United States were disposed to adhere to bi-metallicism, but it was generally recognized that some broader international agreement was necessary in order to maintain the relative value of the metals and give it stability. Great Britain showed no disposition to yield its single-standard policy, but was interested in sustaining the value of silver on account of its extensive use as currency in her Eastern colonies. Germany had given no evidence of a desire to recede from its action of 1873, but was apparently willing to discuss the subject, and to submit her sales of silver to restrictions. Austria was inclined to a cautious policy, dependent on the future action of Germany and Great Britain.

An effort was made in 1880 by France to secure a monetary conference at Paris in November of that year. This effort failed, but the co-operation of the United States was obtained, and on the 8th of February the Foreign Secretary was able to announce, in a council of ministers, that the Government of the United States had agreed to the proposition of France for an International Monetary Conference to consider the question of a more general adoption of the double standard of gold and silver. Invitations would be addressed to the other powers, and the question then was whether it should be in the name of France alone or France and the United States jointly. Subsequently, early in March, a joint note of the two Governments was addressed in identical terms to their ministers in other countries, to be by them communicated to the several governments to which they were accredited. The note was as follows:

The Government of the Republic of France and the Government of the United States, having exchanged views upon the subject of a conference between the powers principally interested in the question of establishing internationally the use of gold and silver as bi-metallic money and securing fixity of relative value between those metals, and finding themselves in accord as to the usefulness and importance of such a conference, and as to the time and place at which the same should be held, have the honor now to invite the Governments of — to take part in a conference by such delegates as each government may appoint, to be held at Paris on Tuesday, the 19th of April next, to consider and adopt for presentation to the governments so represented for their acceptance a plan and system for the establishment by international convention of the use of gold and silver as bi-metallic money at a fixed relative value between those two metals.

Messrs. William M. Evarts, Allen G. Thurman, and Timothy O. Howe were promptly appointed as delegates on behalf of the United States, and Mr. S. Dana Horton was subsequently added. The French Government appointed M. Magnin, the Minister of Finance; M. Dumas, Secretary of the Academy of Sciences, and President of the Mint Commission;

M. Denomandie, Senator and head of the Bank of France; and M. Cernuschi, the well-known advocate of the bi-metallic standard. Germany accepted the invitation, with the reservation that it would not be bound by any decisions of the conference, and selected Baron Thielmann as its delegate. Austro-Hungary named three delegates: Count Kuefstein, Councilor of Legation; Ministerial Councilor Nibauer; and Herr Hegudus, of the Reichsrath. Their instructions indicated a leaning toward bi-metallism, but practically required them to hold a neutral position. There was much discussion in Great Britain regarding the propriety of sending representatives. There were memorials in favor of appointing delegates addressed to the Government by the Liverpool Chamber of Commerce, the merchants and bankers of London, and some others, and remonstrances against it from Manchester and other quarters. The Government assumed that the terms of the invitation were such that it could not be accepted without committing those participating in the conference to a support of its conclusions. On the 7th of April Sir Charles Dilke, in the House of Commons, stated that England could not consent to discuss the principle of bi-metallism, and had declined to take part in the conference; but the Indian Government would send a delegate, who would not, however, participate in the discussion. The other colonies might also be represented.

When the conference met, on the 19th of April, fourteen governments were represented; viz., those of France, the United States, Germany, Austro-Hungary, Italy, Spain, Portugal, Holland, Belgium, Russia, Norway and Sweden, Denmark, Switzerland, and Greece. Several of them had but one delegate. Sir Louis Mallet and Lord Reay, the delegates for India, had not arrived, and it was understood that Sir A. T. Galt would appear in the interest of Canada, and that Mr. C. W. Fremantle, deputy-master of the British Mint, would be present during some part of the proceedings. The delegates were welcomed by M. Barthélemy St.-Hilaire, the French Minister of Foreign Affairs, who said that the object of the conference was to establish a normal monetary standard instead of the shattered equilibrium of the past, and to consider the best means for preventing a recurrence of the disastrous crises. He concluded by declaring that, if the conference did not achieve immediate success, it would, at least, have raised controversies which are indispensable to the discovery of truth, and established principles which will bear fruit in the future. On motion of Mr. Evarts, delegate from the United States, M. Magnin, French Minister of Finances, was elected president of the conference. M. Magnin reviewed the different phases of the question, and showed the inconveniences which the system established in 1867 of a gold standard, with silver as a transitory companion, had brought about in Germany.

He dwelt on the recommendation in favor of bi-metallism by the committee of the United States Congress in 1876. He explained the causes of the non-success of the Monetary Conference in 1878. As regarded the objects of the present conference, it was indispensable, in order that silver shall regain its former value, that it should again be freely coined side by side with gold. A committee of fifteen, one for each state represented, was appointed to draw up and report a list of questions to be considered. Dr. J. C. Kern, of Switzerland, was made president of the committee as the senior member, and Herr Vrolik, of Holland, was chosen to act as chairman at its sittings. There were several meetings of the conference and of the committees prior to May 5th, when the following questions, prepared by the Dutch delegate, M. Vrolik, were submitted as the report of the committee:

1. Have the diminution and great oscillations in the value of silver, which have occurred especially in late years, been injurious to commerce and consequently to the general prosperity? Is it desirable for the ratio of value between the two metals to have a great fixity?
2. Are the phenomena indicated in the first part of the foregoing question to be attributed to the increase in the production of silver or to legislative measures?
3. Is it probable or not that if a large group of states accords free and unlimited coinage of legal pieces of both metals, having full paying power in a uniform proportion for the gold and silver contained in the monetary unit of each metal, a stability, if not absolute, at least very substantial, will be obtained in the relative value of those metals?
4. In case the preceding question is answered affirmatively, what measures should be taken for reducing to a minimum the oscillations in the ratio of value between the two metals? For instance, would it be desirable to impose on chartered banks of issue the obligation of always accepting at a fixed price ingots of gold and silver offered them by the public? Could the public be insured the same privileges in countries where there is no chartered bank of issue? Should the mintage be gratuitous, or at least uniform, in all countries for the two metals? Should there be an understanding to leave free of all obstruction international commerce in the preceding metals?
5. In adopting bi-metallism, what should be the ratio between the weight of pure gold and silver contained in the monetary units?

After this programme had been submitted to the conference, Baron Thielmann made the following statement on behalf of the German Government: "We admit unreservedly that a rehabilitation of silver is to be desired, and that it might be realized by the establishment of the free coinage of silver in a certain number of the most populous states represented in this conference, which, with that view, would adopt as a basis a fixed ratio between gold and silver. Nevertheless, Germany, whose monetary reform is so far advanced, and whose general monetary situation does not seem to demand so radical a change of system, does not see that it is possible to consent, so far as she is concerned, to the free coinage of silver. Her delegates can not, therefore, subscribe to such a proposal. The Imperial Government is, however, quite disposed to second, so far as it is able, the efforts of other powers, which might

be disposed to unite to bring about a rehabilitation of silver by means of the free coinage of that metal. For that purpose, and to guarantee those powers against the influx of German silver, which they appear to apprehend, the Imperial Government would impose on itself the following restrictions: During a period of some years it would abstain from all sales of silver, and during another period of a certain duration it would engage to sell annually only a limited quantity, so small that the general market would not be encumbered by it. The duration of those periods, and the quantity of silver to be sold annually during the second, would form the subject of subsequent negotiations."

The delegates for India, who appeared at this stage of the proceedings, acted under the following instructions: "You will explain that, in sending a delegate to the conference, the Government of India must not be held to commit itself to the adoption of the principle of the bi-metallic system in India, and that you are not authorized, without further instructions, to vote on any question raised at the conference. You will, however, add that, while the Secretary of State in Council is unwilling to encourage an expectation of any material change at present in the monetary policy of India, he would be ready to consider any measures which might be suggested for adoption in India as being calculated to promote the re-establishment of the value of silver. It is desirable that you should, so far as possible, avoid giving any pledge on the part of the Government of India which would in any manner interfere with its future liberty of action; but in the event of your being pressed on the subject, or your seeing reason to think it desirable that such a declaration should be made, you are authorized to agree, on the part of the Government of India, that for some definite term of years, not exceeding ten, it will undertake not to depart in any direction calculated to lower the value of silver, from the existing practice of coining silver freely in the Indian mints as legal tender throughout the Indian dominions of her Majesty. Such a declaration must, however, be conditional on the acceptance by a number of the principal states of an agreement binding them, in some manner or other, to open their mints for a similar time to the coinage of silver as full legal tender in the proportion of $15\frac{1}{2}$ of silver to 1 of gold, and the engagement on the part of India would be obligatory only so long as that agreement remained in force."

Mr. Fremantle and Sir A. T. Galt, as well as Sir L. Mallet and Lord Reay, were present after the plenary sitting of May 5th, but stated that the English Government was thus represented out of deference to the inviting powers, and that its delegates, while willing to furnish information, would not vote on any proposition. The discussions were kept up from time to time until May 19th, representa-

tives of various governments explaining their position. The German delegate stated that Germany adhered to the single gold standard, but was prepared to suspend its sales of silver, and might increase the number of marks in circulation, and possibly increase the amount of silver per mark, and withdraw the five-mark gold-piece. The delegates of Russia, Norway and Sweden, Switzerland, and Greece, spoke with reservation in regard to the acceptance of the bi-metallic standard. The Spanish delegate proposed an adjournment, to secure fuller instructions, and reserved entire freedom of action. On the 7th of May Mr. Piersen, of Holland, made a speech advocating bi-metallism, and M. Pirmez, of Belgium, replied. M. Seismitt-Doda, the leading delegate of Italy, declared in the course of the proceedings that Italy was there "to sustain the principle of bi-metallism." On another occasion he thought the conference "would not know how to separate without having voted a motion affirming the necessity of doing something in the interest of the rehabilitation of silver, with the proportion of 1 to $15\frac{1}{2}$." It was noted, however, as a significant circumstance that, in passing the act for the resumption of specie payments, the Italian Chamber had declared that "it can not be obligatory on private individuals to receive silver money which does not bear the mint-mark of the country." This was taken as an indication of a disposition to be free from the stipulations on which the Latin Union is based, one of which recognizes the international character of the money coined by its members. Among the propositions advanced was one by the German delegate, suggesting that if the United States, France, Italy, and Holland agreed to an unlimited coinage of silver at the ratio of $15\frac{1}{2}$ to 1 of gold, the other states might observe certain conditions, such as not coining gold in denominations lower than ten francs, and improving the fineness of silver coins. On the 19th of May the following order of the day was adopted: "After having heard the general discussion and examining the monetary situation from an international point of view, and having regard to declarations made in the name of certain governments, and in consideration of the fact that several delegates desire a temporary suspension of the sittings in order to refer to their governments, the conference decides to adjourn until June 30th."

Before the adjournment, Sir Louis Mallet made a statement of the views of the Indian Government. It would engage, he said, not to change the system of free mintage of silver during a period to be settled by ulterior negotiations, provided a certain number of the principal states undertook to maintain such free mintage for the same period at the ratio of $15\frac{1}{2}$. He claimed for India that she had done more than any other country to prevent an aggravation of the depreciation of silver; for the Calcutta and Bombay mints coined silver in 1879, the date of the last return, to the amount

of seven millions. India, moreover, was in no way responsible for the depreciation, but had been a victim of the action of others, so that she not only had a right to offer to co-operate in efforts for maintaining the value of silver, but had in a certain sense a right to call for such efforts. Reviewing the monetary conferences of 1869 and 1878, Sir Louis remarked that the latter, while reversing the decision of the former against silver, left it to the discretion of each state to use either metal or both; but a better solution was required. The loss by exchange of the Indian Treasury last year was estimated at two millions; the greater part of the remittances to England was obligatory and permanent, and an increase of the revenue was difficult; the land-tax being assessed in perpetuity in Bengal, and for terms of years elsewhere. He dwelt on the inconveniences to commerce of an uncertainty in the value of the rupee, and urged that a stable international money was imperatively preferred, and insisted that if law was entitled to impose a single metal as money, it had an equal right to impose two metals at a fixed ratio. The impossibility of England joining in the scheme should not be considered fatal to its success; while the failure of the conference might involve, not the maintenance of the *status quo*, but the extension of the gold standard. If the fall of silver continued, India, on the discovery of fresh gold-mines or some other opportunity, might reluctantly enter into the struggle for the possession of the only metal having a firm international basis. The difficulties on the side of England and Germany must have been foreseen, and he exhorted France and America not to be thereby deterred from persevering in an effort which, like all great reforms, might require time, patience, courage, and faith.

Before the separation of the delegates, they were presented with samples of a five-franc piece composed of gold and silver in equal proportions, and struck by the French Government as a suggestion in regard to international bi-metallic money.

The conference reassembled on the 30th of June, but after a brief sitting adjourned to July 2d. The Austrian delegates returned, with fresh instructions to maintain a friendly attitude in regard to bi-metallism, but not to depart from the reserve previously displayed. M. Thorrner, the Russian delegate, had made a report to his government, in which he said that Russia should prepare for the resumption of specie payments by permitting the circulation of silver and gold at a premium, and that, when resumption becomes possible, silver should be the standard, gold being permitted to circulate at a premium corresponding with its market price in silver. The premium should be fixed from time to time by the Government, and not follow the minor course of fluctuations. The Italian delegate reported that his government would enter the proposed union for sustaining the double standard, on

condition of coining silver to a restricted amount. In view of the attitude of various other governments, Mr. Thurman, of the United States delegation, expressed the conviction that the offers of England and Germany would not warrant the United States in allowing the coinage of silver. The United States, he said, did not insist on immediate and unqualified bi-metallism, but were ready to accept approaches thereto, believing it would eventually prevail; but they could not incur the risk of altering the standard through the conflicting or in-harmonious action of other states.

The position of the Bank of England was stated by Mr. Fremantle. In reply to an inquiry from Lord Granville as to the terms on which the bank would be willing to resort to the practice of holding silver bullion in the issue department, it had been explained that the possibility of doing so "depended entirely on the return of the mints of other countries to such rules as would insure the certainty of the conversion of silver into gold and gold into silver. These rules need not be identical with those formerly in force." It was needful, however, that they should be such as would secure the facility of exchange, indispensable to the resumption of silver purchases by the Bank of England, whose responsibilities are contracted in gold.

The general position of the British Government was stated in the House of Commons by Mr. Gladstone in the following terms:

No engagement has been made by the Government, and no authority conferred on the British representative at the Paris Conference, to alter the limits now imposed by law upon the use of silver as currency. The Government were informed that an agreement might be possible between the silver-using powers, if, among other matters, the Bank of England would hold in the issue department part of its reserve in silver; and they communicated their information to the bank, inviting the Bank Court to state its opinion upon such an exercise of the discretion intrusted to the bank by the act of 1844. The Court replied that it saw no reason why an assurance should not be conveyed to the Monetary Conference if the Treasury thought it desirable; that the bank, agreeably with the act of 1844, will be always open to the purchase of silver, provided that mints of other countries return to such rules as would insure the conversion of gold into silver and silver into gold. The Treasury, noting the statement of the bank that it saw no danger to the principle of the act of 1844 in such an assurance, caused the delegate of the United Kingdom at the conference to be instructed to convey the assurance to the conference. Mr. Fremantle informed the conference accordingly, at its meeting of yesterday [July 8th]. The Secretary of State for India will state whether he has authorized the delegate of India to convey any assurance to the conference. There is no intention on the part of the Government to alter the present currency law.

Lord Hartington made the following statement:

The only engagement which the representatives of the Government of India at the Monetary Conference have been authorized to make on behalf of that Government is that for a definite term of years it will undertake not to depart in any direction calculated to lower the value of silver from the existing practice

of coining silver freely in the Indian mints as legal tender throughout the Indian dominions of her Majesty. Such a declaration, however, must be conditional on the acceptance by a number of the principal states of an agreement binding them in some manner to open their mints for a similar term to the coinage of silver as full legal tender in the proportion of $15\frac{1}{2}$ of silver to 1 of gold, and the engagement on the part of India would be obligatory only so long as that agreement remained in force.

Sittings were held on the 4th, 6th, and 8th of July, and then an adjournment was taken to April 12, 1882. A declaration, consisting of four clauses, was made to the conference by the French and American delegates by way of formulating the basis for future proceedings. The first three clauses were declaratory of the importance of a fixed relation in value between gold and silver, of the opinion that a powerful combination of states might, by agreement among themselves, maintain such a relation, and that the proportion of $15\frac{1}{2}$ to 1 was the desirable one to adopt. The fourth clause was as follows: "Without considering the effect which might be produced by a lesser combination of states, a combination which should include England, France, Germany, and the United States, with the concurrence of other states both in Europe and on the American Continent, which this combination would insure, would be adequate to produce and maintain throughout the commercial world the relation between the two metals that such a combination should adopt."

The proposition for adjourning was put upon the ground that "there is reason for believing that an understanding might be established between the states which have taken part in the conference, that the monetary situation of several states may call for the intervention of legislation, and may give rise to diplomatic negotiations."

Ex-Senator Howe returned to the United States in July. He explained the attitude of the different governments represented at the conference as follows:

The Belgian representative was there as a strong monometallist; so also were the representatives of Sweden, Norway, and Switzerland. The commissioners representing Russia, Austria, Italy, and Spain inclined strongly to bi-metallism. The attitude of Great Britain was the principal obstacle we had to contend with. Her representatives were in favor of the double standard, but were prohibited from committing the nation to it. The ministry opposed bi-metallism, and they did it, not because they do not favor the double standard, or because they want to keep silver out of the coinage, but because they have other important business before them, and feel that they can put the coinage question off to some future day. The matter, however, has been the subject of discussion in financial and commercial circles in Great Britain, and a strong sentiment has been found in favor of bi-metallism. With regard to Germany, her representatives pointed to the action taken by her in 1873 in adopting the single gold standard, and said they did not see any necessity for impeaching the propriety of that move. Still, they are not opposed to silver, and are only waiting for England. If the latter country comes to adopt the double standard, they will join with her willingly and gladly.

Mr. Evarts returned in September, and, in answer to inquiries regarding the results of the conference, said

that a great advance had been made as compared with the results accomplished by the conference of 1878. In that assemblage the great powers were very reserved, or were wholly unrepresented. Now the principal countries of Europe, including Germany and Great Britain, both of which held aloof in 1878, are generally agreed upon the advisability of the adoption of a bi-metallic standard of commercial values. So far as India was concerned, which is the great silver interest of England, there was considerable freedom and considerable active participation shown by the delegates this year. The position of the United States is well known and understood now in Europe—that our interest is solely in view of our actual and expected participation in the commerce of the world. We desire that the money of international commerce shall be upon the basis which leaves commerce in such a position that it shall not be embarrassed by the two bases—silver and gold—interfering with one another. In other words, we desire to make the two metals international money.

In regard to the adjournment, Mr. Evarts said:

In adjourning to another time instead of terminating our deliberations we generally agreed in feeling that a stage had been reached in exciting the attention of the different nations, furnishing them the means of debating the question which, in the interval, might be occupied by them either in direct diplomatic correspondence on the subject or in such discussion in Congress or in Parliament, or in general channels of public opinion, as each nation should think advisable and useful. We also thought it would be felt and understood everywhere that so great a question and transaction as the establishment of an international money, of both metals, was a task that should not, and could not, be completed in any brief consideration of the subject.

The coinage of silver dollars was continued during the year in the United States in accordance with the provisions of the law of 1878, the total number issued being 27,637,955, or about 2,300,000 per month. The Director of the Mint, in his annual report, makes the following suggestions in regard to a continuance of this coinage, in view of the action of the Monetary Conference:

The International Monetary Conference which met at Paris in April last instructively discussed the subject of a common ratio in the coinage of gold and silver, but no practical conclusion was reached. Delegates from several European countries gave little encouragement for the expectation of any effective aid from their governments in the effort to restore silver to its former place in the monetary circulation. The hope, however, seems to have been entertained that further deliberation, and a consideration of the inevitable complications and disturbances to commercial exchanges between Asiatic countries and the Western world, to be feared from the exclusion of silver from coinage, will enlist the co-operation of those nations in this, possibly the final, effort to retain silver conjointly with gold as a measure of values. In view, however, of the failure of the conference to agree upon any practical measure, and while awaiting its future action, it is a question for our serious and early consideration whether it is not desirable to suspend the further coinage of silver until, by international agreement and effective legislation, the unlimited coinage of silver and gold at a common fixed ratio shall have been authorized by the principal commercial nations of Europe and America. The United States has done

its part toward retaining silver as a monetary agent for measuring and exchanging values. For three years it has appropriated to coinage purposes one third of the world's production of silver, and maintained its average bullion price nearly to the average of 1878. As was said in my first report, "should the \$650,000,000 of silver coin, now full legal tender in Europe, be demonetized, the United States could not, single-handed among commercial nations, with no European co-operation or allies, sustain the value of silver from the inevitable fall. With that danger menacing us, we can not, without serious embarrassment, continue such coinage unless other commercial nations will agree upon the general use of silver as well as gold. But should such international agreement be secured, neither our ratio of comparative valuation nor even one based upon the present exchangeable value of gold and silver will probably be adopted. The ratio of $15\frac{1}{2}$ to 1, already approved and in use among the nations composing the Latin Union, would doubtless be chosen. This would, if the coinage of silver as well as gold at all the mints of the world were made free, as bi-metallism implies, cause the voluntary withdrawal from circulation of the standard dollars, and their recoinage. In such case the further coinage of silver dollars of the present weight, unless needed for circulation, is a useless expenditure."

The Secretary of the Treasury, in his annual report, and the President in his message, also recommended a suspension of the coinage of silver dollars, and a future restriction, not to an arbitrary limit, but to a limit determined by the actual demand for circulation. They also recommended a cessation of the issue of silver certificates, and advocated a policy in future in regard to bi-metallism dependent on a substantial concert of commercial nations.

BLANQUI, AUGUSTE, a French Democrat and Socialist, died January 2d, at the age of seventy-six. Without ever having formulated any definite objects to which his extraordinary political activity was directed, he has appeared in the character of a leader in every revolutionary movement of the century. When a student in Paris, his intellectual gifts were widely remarked. He commenced life as a private tutor. A mutual attachment sprang up between him and his second pupil, the daughter of a Paris banker, which was concealed for years, and then resulted in their marriage. After seven years of happy wedded life, Blanqui embarked in his career of a political conspirator. His condemnation to life-long imprisonment so wrought upon his wife's mind that she died within a year. Since then Blanqui has passed thirty-seven years of his life in prison. He founded numerous secret societies, and was the chief organizer of nearly every democratic outbreak. Lamartine says that after the Revolution of 1848 he invited Blanqui to forsake destructive criticism, and devote his talents to the diplomatic service of his country, offering him a foreign mission. Blanqui was small and insignificant in appearance. He lived like an ascetic, using no wine or coffee, eating vegetable food only, dispensing with fire in all weathers, and leaving his chamber-windows always open. Though the most active instigator of violent uprisings in

France, he had a sentimental horror of bloodshed; and though always foremost in revolutionary and socialistic disturbances, he frequently expressed the conviction that strong government was necessary to prevent anarchy, and that the economic problem could not be solved perhaps in centuries. The Communards of Paris converted the funeral of Blanqui into a celebration of the amnesty.

BLUNTSCHLI, Professor JEAN GASPARD, jurist and writer on international law, born at Zürich in March, 1808, died October 21st. He was educated for the law in his own country, and afterward went to Germany, where he was a pupil of Savigny and Niebuhr. His work on "Succession according to the Roman Law" gained him the doctor's degree at Berlin. Upon his return to Switzerland, he engaged actively in the political conflicts of the time, and contributed frequently to the Liberal press. He became a member of the State Council, and was a member of the Ministry before the return of the Conservatives to power. In 1838 he published the "Political and Juridical History of Zürich." He assisted the brothers Grimm in their researches into German antiquities, and wrote several works on national history. His work on "General Political Law" (Munich, 1850) established his reputation as an historian and jurist. When the University of Zürich was founded, in 1833, Bluntschli was appointed a titular professor. In 1861 he went to Heidelberg as Professor of Public Law. In recent years he has published several works on the history and theory of law, which are studied with great attention in Europe. In the early part of 1881 he was provoked into an amicable controversy with General von Moltke by the latter's strictures on the reform in the laws of war proposed by the Institut de Droit International, and his defense of war as an agency in higher civilization.

BRAHMO SOMAJ, THE. The division in the Brahmo Somaj of India, which took place in 1878 (an account of which is given in the "Annual Cyclopædia" for 1879, article BRAHMO SOMAJ), has been made wider in consequence of a new departure that the wing of the church of which Keshub Chunder Sen is regarded as the leader has taken. The new movement assumed a definite form at the close of the celebration of the fifty-first anniversary of the Brahmo Somaj, when Mr. Sen's party assumed the name of the "Church of the New Dispensation," and the "Flag of the New Dispensation," intended to denote the church militant developing into the church triumphant, was formally inaugurated, with the *Arati* ceremony, or the waving of lights and the chanting of hymns. The "New Dispensation" is believed by Mr. Sen to afford a scheme for effecting the unity and harmony of all other dispensations, all of which—Hindooism, Buddhism, Islamism, and Christianity—are connected as parts of the divine scheme, and really exhibit order and continuity where confusion

and anomaly only are commonly perceived. The new order is the happy welding of these together, and in it the fulfillment of Christ's prophecy of the coming of the Comforter is to be sought. Christ is not held to be divine, as in the orthodox churches of Christianity, but is regarded with great reverence and devotion as a prophet, and is allowed a subjective not an objective divinity. God is believed in as an objective reality, a supreme Father, whose character of divine holiness worshipers aim to assimilate and realize in their hearts. Communion is sought to be promoted with prophets and departed saints, who are supposed to be real persons and children of God, by the so-called pilgrimages, in which a particular room represents the historical site, and conversations are carried on, by the aid of a vivid imagination, with the person invoked, whose utterances of centuries ago, says Dr. William Knighton, in the "Contemporary Review," "are applied, more or less skillfully, to the exigencies of the present time, or the difficulties of existing theological speculation." The spirits are not supposed to be materialized or actually present, but to be spiritually drawn into the life and character of the devotee; the pilgrimages being explained to be simply practical applications of "the philosophy of subjectivity." The believer may be aided by the perusal of the sacred books of the several religions, by studying the precepts and examples, and absorbing the spirit of which he is believed to be brought into communion with the authors of those religions, or to have "conferences" with them. The immortality of the soul is taught, with the idea that the future life is a continuation and development of the present life. The incarnation of Deity is denied, but all the great teachers of religion, from Moses to Mohammed, are recognized as God's servants and as useful teachers. A violation of duty is sin, and every sinner must suffer the consequences of his own sinfulness, in this world or the next. Holiness may be attained, however, and sinfulness extirpated by the worship of God, by self-control and self-denial, by repentance, by the study of God in nature and in good books, by good company, and by solitary contemplation; and by these means salvation is attained. No mediation between God and man is suggested. Salvation brings with it a perpetual growth in purity, which goes on for all eternity. The New Dispensation is openly and fearlessly declared to be the work of God and not of man, a beautiful symmetrical plan of providence in a course of daily development, which provides an infallible remedy for human wants and short-comings; a "system of Divine eclecticism, absorbing all religions, incorporating in itself all the prophets of God."

Among the peculiarities of ritual of the New Dispensation are the *Arati* ceremony, with which the flag was inaugurated, and which has been criticised as savoring of idolatry; and the sacramental ceremony, in which rice and water

are substituted for the ordinary bread and wine. The "vow of self-surrender" is taken by persons who enroll themselves in the order of "Grihastha Vairagi," or ascetic householders—men of the world who, following secular employments, give all they make to the church. The singing of hymns from door to door, for the benefit of the worldly-minded, which was formerly confined to the lower classes of people, has been commended under the New Dispensation to the middle and upper classes as an "exalted work."

The fifty-first anniversary of the Brahmo Somaj was celebrated by the adherents of the New Dispensation in a series of meditative and mystic ceremonies, which, with the days of preparation, occupied most of the month of January. A portrait of Ram Mohun Roy was unveiled. Five missionaries were consecrated to a life in which they were told they would be wholly under the guidance of Heaven, and would find themselves always in a state of complete harmony with each other, drawing their inspiration from the Almighty alone, who would speak to and through them. The report for the past year mentioned as its peculiar, pre-eminent feature, the "communion with saints," which was observed by eight pilgrimages of the missionaries and other Brahmos to the house of the minister (Mr. Sen), with honors to the following saints: Moses, February 22d; Socrates, March 7th; Sakya, March 14th; Mohammed, September 19th; Chaitanya, September 26th; scientific men, October 3d. An average of one hundred students had attended the theological institution. Fifteen missionaries had been employed in Calcutta and six in Dacca, besides fourteen secular missionaries. Thirteen somajes had been established, and the flag of the New Dispensation had been carried all around India. A letter was read from the Prarthana Somaj, of Bombay, expressing the hope that all schism might be healed, and that there might be a united theistic church in India, which was suitably responded to. Steps were taken to publish a reply to misrepresentations which, it was alleged, had been made of the Brahmo Somaj in India and England. The missionaries were given the distinctive title of *Sraddheya Bhai*, or Reverend Brother. A sacramental ceremony was celebrated on the 6th of March. On the 7th of June "a new Hom ceremony," or fire-sacrifice, was celebrated as the "ceremony of overthrowing temptation," and was followed on the 12th by a "new baptismal ceremony," in which it was claimed that "the rite was administered by John the Baptist himself, who was present in spirit."

A considerable majority of the Brahmo Somajes, including one hundred and forty churches in different parts of India, from Assam to Sind, and from Lahore to Madras, adhere to the old order, and either oppose the New Dispensation or hold aloof from it. The chief of these societies is the *Sadharan* (or Univer-

sal) Brahmo Somaj of Calcutta, which has also many members among the provincial somajes, and has regular agents in various parts of India. Its aims are stated in its annual report to be, first, "to develop within itself and encourage in others a life of piety, based upon direct and immediate communion with the living God; to promote absolute spiritual freedom by combating all doctrines of incarnation, mediation, or prophetship; to build morality and piety on foundations of reason and conscience, illumined by the light of divine intercourse; and to strive for a life in which devotion and earnest work will commingle"; and, secondly, to introduce a constitutional and representative mode of church government. The declaration of principles, read at the dedication of the church in Calcutta in January, enforced the worship of the One True God, to the exclusion of every created person or thing, and of divine honors "to any man or woman as God, or equal to God, or an incarnation of God, or as appointed of God"; the renunciation of distinctions of caste or social position; the catholicity of Brahmoism ("no book or man shall be acknowledged as infallible, and the only way to salvation; but, nevertheless, due respect shall be paid to all scriptures, and the good and great of all ages and countries"); and the maintenance of spirituality of doctrine. "Flowers, spices, burnt-offerings, candles, and other material accompaniments of worship," it said, "shall never be used, and care shall be taken to avoid everything tending to reduce religion to mere parade and lifeless forms. . . . Anything that will directly or indirectly encourage idolatry, engender superstition, take away spiritual freedom, lower conscience, or corrupt morals, shall never be countenanced." The Sadharan Brahmo Somaj sends missionaries over India, sustains societies for religious culture among the students of Calcutta, and maintains a theistic library and a school for the higher education of boys, with twenty teachers and 389 pupils, and labors by itself, and through associated societies of women, for the improvement of women. Among the reforms advocated by the theists of India, of whom both of these societies are branches, are the complete abolition of all caste restrictions; the abolition of the worship of deceased ancestors; a reform of the ceremonies usual at births, and at cremation; reform of marriage customs (which is pronounced equivalent to the reconstruction of Hindoo society); the promotion of female education and emancipation; the limitation of men to one wife; the removal of the prohibition against the marriage of widows, and social reform; the suppression of intemperance of all kinds; the promotion of education among the people; and the social and moral regeneration of India.

BRAZIL (IMPERIO DO BRAZIL). (For details relating to area, territorial divisions, population, etc., reference may be made to the "Annual Cyclopædia" for 1878.)

The Emperor is Dom Pedro II, born December 2, 1825; proclaimed April 7, 1831; regency until July 23, 1840; crowned July 18, 1841; married September 4, 1843, to Theresa Christina Maria, daughter of the late King Francis I of the Two Sicilies.

The Cabinet in 1881 was composed of the following ministers: Interior, Baron Homem de Mello; Justice, Councilor M. P. S. Dantas, Senator; Foreign Affairs, Councilor P. L. Pereira de Souza, Deputy; Finance, Councilor J. A. Saraiva, Senator, and President of the Council of State; War, Councilor Franklin Doria, Deputy; Navy, Councilor J. R. Lima Duarte, Deputy; Public Works, Commerce, and Agriculture, Councilor M. Buarque de Macedo,* Deputy.

The Council of State was composed of the following members in ordinary: The Princess Imperial, Donna Isabel; Prince Gaston d'Orléans, Count d'Eu; the Senators Viscount de Abaeté, Viscount de Muritiba, Viscount de Bom Retiro, Viscount de Jaguar, Viscount de Nietheroy, Viscount de Araxá, J. P. Diaz de Carvacho, and J. J. Teixeira, Vice-Admiral J. R. de Lamare; Dr. P. J. Soares de Souza; and of members extraordinary: Senators J. L. C. Paranaguá and M. P. S. Dantas; Councilors Martin Francisco, B. A. de M. Taques, and J. C. de Andrade; and Viscount de Prados.

The President of the Senate, which comprises 58 members elected for life, was Viscount de Jaguar; and the Vice-President, Count de Baependy.

The President of the Chamber of Deputies, with 122 members elected for four years, was Viscount de Prados; and the Vice-President, F. de Almeida.

The Presidents of the several provinces were as follows:

Alagoas.....	Dr. J. E. Ferreira Jacobina.
Amazonas.....	Dr. A. J. Furtado.
Bahia.....	Senator J. L. C. Paranaguá.
Ceará.....	Senator P. Leão Velloso.
Espírito Santo.....	Dr. M. A. Tostes.
Goyaz.....	Dr. J. A. Leite de Moraes.
Maranhão.....	Dr. P. S. Cincinato.
Matto-Grosso.....	Colonel J. M. de Alencastro.
Minas-Geraes.....	Senator J. F. Meirade Vasconcellos.
Pará.....	Dr. M. P. Souza Dantas Filho.
Parahyba.....	Dr. J. Ferreira Carneiro.
Paraná.....	Dr. S. B. Pimentel.
Pernambuco.....	Dr. J. A. de Azevedo Lima.
Piahy.....	Dr. S. Q. de Moura.
Rio Grando do Norte...	Dr. A. D. Satyro.
Rio de Janeiro.....	Dr. Martinho A. S. Campos.
Santa Catharina.....	Dr. J. R. Chaves.
São Paulo.....	Senator F. C. de Abreu e Silva.
São Pedro (Rio Grande do Sul).....	Dr. F. P. Soares Brandão.
Sergipe.....	Dr. H. M. Inglez de Sousa.

The Archbishop of Bahia, the Rt. Rev. L. A. dos Santos (1880), is Primate of all Brazil; and there are eleven bishops: those of Pará, São Luiz, Fortaleza, Olinda, Rio de Janeiro, São Paulo, Porto Alegre, Marianna, Diamantina, Goyaz, and Cuyabá.

The Brazilian Minister Plenipotentiary and Envoy Extraordinary to the United States is

* Died August 29, 1881. (See OBITUARIES, FOREIGN.)

Councilor Lopes Netto (transferred from Montevideo in July, 1881); and the Brazilian Consul-General at Baltimore (for the Union) is Senhor Salvador de Mendonça.

The United States Minister to Brazil is Hon. James Monroe (1881); and the United States Consul-General at Rio de Janeiro is Mr. Thomas Adamson. "We learn, with the greatest pleasure," writes a Rio journalist, referring to the appointment of Minister Monroe, and to the continuance of Mr. Adamson in the consulate-general, "that the Honorable James Monroe has been nominated by the President of the United States as representative of that great republic at the court of Brazil. Mr. Monroe will be no stranger in Brazil; he is already known here as a consul who discharged his important duties with zeal and integrity; and his precedents here afford the certainty that the United States will find in him a resident Minister in Brazil who will reflect honor on his native country. As regards the present United States consulate-general at Rio de Janeiro, we are rejoiced to find that no change is contemplated in its occupancy by the gentleman who has so worthily discharged the duties thereof, and reformed it. As the New York correspondence says, Mr. Adamson is not popular among a certain class of American citizens here; but consuls, like ministers of state, who initiate and enforce necessary reforms, must count on having to endure much obloquy from the small but noisy class whose interests the reforms traverse. Still, every important American and other house, having business with the United States consulate-general here, will freely acknowledge that, in Mr. Adamson, we have had the best American Consul-General Rio has seen since the days of 'Honest James Monroe.'"

The actual strength of the army in 1880 was 15,304, of whom 1,743 were officers. The distribution of the several arms was as follows: Infantry—twenty-one battalions, eight garrison companies, and one dépôt company for drill-service; cavalry—five regiments, one squadron, and five garrison companies; artillery—three mounted regiments and five foot-battalions; sappers and miners, one battalion; gendarmes, 8,340, of whom 931 were at Rio de Janeiro. The National Guard had been disbanded, with a view to reorganization after the taking of the new census. Pursuant to the law of February 27, 1875, military service is obligatory for all Brazilian citizens; but numerous exemptions are admitted, and substitution is allowable. The period of service in the regular army is six years, and in the reserve three years. The regulation war strength was to be fixed at 32,000; and the strength in time of peace, although fixed at 13,000, is commonly in excess of that number. The navy, in 1880, consisted of nine steam ironclads, six steam corvettes, sixteen steam gunboats, six steam transports, and three sail of the line (one cor-

vette and two smaller craft); with an aggregate of 3,758 men, and a total armament of 166 guns. The aggregate steam-power was 8,660 horses. Besides the vessels above enumerated, there were five iron-clad ships, one gunboat, one school-ship, and one brig for midshipmen, all without armament. The *personnel* of the navy consisted of 14 general staff-officers, 340 first-class officers, a sanitary corps 73 strong, 17 almoners, 88 accountants, 57 guardians, and 185 engineers; an imperial marine corps, 2,695 strong, a naval battalion of 286 men, and 1,229 apprentices; total, 4,984 men. An additional gunboat has been reported "in course of construction" for some years past; but mention must here be made of two important craft, officially described as follows: One of these, an ironclad of novel construction, contracted for in London in 1881, is to be 300 feet in length with 52 feet beam, and to carry four Armstrong twenty-ton, new pattern, breech-loading guns, mounted on two turrets arranged *en échelon*, and sufficiently far apart to avoid injury to one turret by the flash of the guns in the other. The lighter armament is to consist of six 4½-inch guns and a signal-gun. The armor is to be steel-faced throughout; the armor-belt, of two strokes, 7 feet deep and varying in thickness from 10 to 11 inches; and the breastwork and turrets each 10 inches thick. The main-deck will be faced with 1½-inch compound armor on a steel backing ½ inch thick. The stem, stern, rudder, brackets, and tubes will be constructed of brass, while the hull will be double sheathed with wood and covered with Muntz-metal. Prominent among the advantages anticipated in this ironclad are: the protection of the magazines and the spaces beneath the breastwork, fore and aft of which the armor-belt will pass inside and take the form of oblique armor; the diminution of weight consequent upon that arrangement, and the security against water lodging upon the inner protective deck in the event of piercing of the thin ends of the armor; and the use of the forced blast, with a horse-power readily increased from 6,000 to 8,000, and a speed of not less than 15 but susceptible of being accelerated to 16½ knots an hour. Should the ship, on trial, fail by one quarter of a knot to make 15 knots, the builders will, by the terms of their contract, be held to forfeit £2,000; if by one half knot, £4,000; if by three fourths, £8,000; if by one knot, £16,000; if by 1½ knot, £32,000: and should the speed fall short of 13½ knots, the whole of the final installment, amounting to one sixth of the entire price, will be forfeited. Should the extreme draught of the ship, with 400 tons of coal and sea-going stores on board, exceed 20 feet, the forfeitures will be as follows: for an excess of 1 inch, £1,000; of 2 inches, £2,000; of 3 inches, £4,000; of 4 inches, £8,000; of 5 inches, £16,000; of 6 inches, £25,000; and of more than 6 inches, the entire final installment. Likewise, for an excess of one tenth

pound per horse-power over the consumption of fuel indicated by the builders for the trial trip of 6 hours at full speed, £2,000 will be forfeited; for two tenths, £4,000; for three tenths, £8,000; for four tenths, £16,000; for five tenths, £32,000. The ship is to be inclined, and her center of gravity ascertained in the usual way. Her metacentric height when loaded for sea is not to be less than 3 feet, and under no circumstances is it to be less than 2½ feet; and by failure in any of these stipulations the contractors are to forfeit the final installment. The other new craft is an iron gunboat to be named *Iniciadora*, and the king-bolt of which was struck by his Majesty the Emperor on October 27, 1881, at the national arsenal of marine. This will be the first iron vessel built there. The dimensions and other details published were as follows: length, 117 feet; beam, 24 feet; depth of hold, 8 feet; draught, 5 feet; with a displacement of 200 tons, and engines of 260 horse-power, expected to give a speed of from 9 to 10 knots an hour. The vessel is to be double sheathed with wood and Muntz-metal; and the armament to consist of two cannons of 15 caliber at the bow and stern, with ½-inch steel plate casemates for protection against musketry; two machine guns and torpedo apparatus. Electric light will be used on board the *Iniciadora*, which is to have steel-wire schooner rigging, have capacity for one month's supplies for 60 men, and carry coal for 5 days. This gunboat is specially intended for river service.

The subjoined table of the latest official returns at hand from the Finance Department, being for the year 1877-'78, will serve to show the sources of the revenue and the branches of the expenditure, but not the real condition of Brazilian finances at the present time:

REVENUE.	
Customs receipts.....	\$36,597,474
Imposts on shipping	65,749
Internal revenue.....	14,155,169
Deposits.....	762,417
Emancipation fund.....	521,860
Receipts extraordinary.....	3,270,171

Total..... \$55,872,840

EXPENDITURE.	
Ministry of the Interior.....	\$11,207,295
“ of Foreign Affairs.....	504,233
“ of Finance.....	25,526,199
“ of Justice.....	3,231,323
“ of Commerce and Agriculture..	21,053,020
“ of War.....	7,917,394
“ of the Navy.....	6,301,731

Total..... \$75,746,195

Deficit..... \$20,373,355

In the budget for the fiscal year 1881-'82, the revenue was estimated at \$58,479,000, and the expenditure, in round figures, at \$59,143,380; thus showing a deficit of but \$664,380. As for 1880, the revenue appears to have been “greater in that year than any of the preceding years.” The customs receipts from exports gave a total of \$21,425,497, against \$20,877,662 in 1879; though the receipts from

imports were but \$4,765,585 in 1880, against \$4,900,163 in 1879. Hence the actual increase of revenue from the customs department in 1880, as compared with 1879, was but \$413,257. Much more favorable results were expected by the Government from the tariff which went into operation on January 1, 1880; but economists foresaw that a measure so unsatisfactory to the commercial community could hardly prove profitable to the treasury; for, although merchants had been requested to take part in the work of revising the former tariffs, their suggestions had only been regarded as worthy of consideration when favorable to increased rates of duty.* The new tariff undeniably made some improvements, such as the suppression of unnecessary distinctions and the approximation of official to market value; but, on the whole, the revision was performed too rapidly to admit of proper attention to fiscal conveniences. A new revision was ordered toward the close of 1880, and the work intrusted to a committee composed wholly of government employés; but the expediency of submitting the result of their labors, when these should be terminated, for examination to a committee of merchants and another of manufacturers, was strongly urged by the public press.

The amount and branches of the national debt of Brazil were reported as follows on December 31, 1880:

Foreign loan of 1852, due 1882....	£390,300	
“ “ 1853, “ 1883....	236,800	
“ “ 1860, “ 1890....	452,100	
“ “ 1863, “ 1893....	1,871,100	
“ “ 1865, “ 1902....	5,575,900	
“ “ 1871, “ 1909....	3,023,200	
“ “ 1875, “ 1913....	5,079,500	
		Milreis.
Total foreign debt.....	£16,704,000	= 148,665,600†
Six per cent internal funded debt.....		325,397,100
Five “ “ “ “ “ “.....		1,995,000
Four “ “ “ “ “ “.....		119,600
Six “ gold bonds of 1868.....		23,882,000
Four and a half per cent gold bonds of 1879...		50,235,000
Treasury bills.....		16,488,800
Five per cent private loan.....		700,000
Various deposits, about.....		50,000,000
Paper money.....		189,250,000

Total national debt..... 819,738,100†

A new loan of £5,000,000 was talked of in July as probable, and as necessary to permit the payment or funding of the existing floating debt.

In a report made in 1879 by the Minister of Finance, the total debt stood at 779,116,837 milreis = \$389,558,418.

The most recent complete official returns of the foreign commerce of the empire are those for 1878-'79, in which year the exports and imports were, as stated in our volume for 1880, of the total values of \$102,029,250 and \$81,752,900 respectively.

The nature and value of the commodities imported from Great Britain in 1880 were as shown in the subjoined table:

* See “Annual Cyclopædia” for 1880 and for 1878.
† \$74,332,800. ‡ \$409,866,550.

Cotton manufactures.....	£3,337,525
Linen manufactures.....	123,024
Woolen and worsted manufactures.....	81,224
Jute manufactures.....	152,123
Hardware and cutlery.....	274,099
Coal, coke, etc.....	204,723
Earthenware.....	112,260
Rails of all sorts.....	145,029
Steam-engines.....	105,882
Cast or wrought iron.....	223,408
Machinery and mill-work.....	171,789
Seed-oils.....	34,927

Total..... £4,966,138
= \$24,830,690

Against a total of £3,998,721 (= \$19,993,605)
for the year 1879.

The imports from the same source for the first six months of 1881 were as follows:

Cotton manufactures.....	£349,403
Woolen manufactures.....	27,673
Linen manufactures.....	34,334
Jute manufactures.....	29,220
Steam-engines.....	26,030
Rails.....	101,029
Machinery.....	85,916
Hardware and cutlery.....	83,661
Cast or wrought iron.....	79,523
Earthenware.....	36,729
Coal, coke, etc.....	71,603
Seed-oils, etc.....	13,614

Total..... £1,438,734
= \$7,193,670

Judging from the total of the first of these two tables, that of the second would seem to foreshadow a considerable decrease for 1881 as compared with 1880.

Of all the Brazilian staples of export, coffee is by far the chief. With her 530,000,000 * of shrubs, producing on an average 260,000,000 kilogrammes or 572,000,000 pounds annually, Brazil exports nearly one half of the entire quantity of coffee consumed in the world, her home consumption not exceeding 110,000,000 pounds. Her prodigious superiority over all the other coffee-growing countries individually and collectively may be seen by the following figures:

COUNTRIES.	QUANTITY PRODUCED.	
	1855.	1878.
	Kilogrammes.	Kilogrammes.
Brazil.....	163,400,000	225,500,000
Dutch possessions.....	71,322,000	91,404,800
West Indies.....	20,300,000	41,800,000
Ceylon.....	28,315,000	53,422,400
South Africa.....	22,815,000	35,890,000
Arabia.....	6,176,000	2,779,200
Africa.....	4,000,000	4,000,000
Central America.....	3,500,000	32,500,000
Philippines.....	1,353,720	3,396,800
Oceania.....	.....	150,000
Total.....	330,151,880	490,843,200
	= 676,311,354 lbs.	= 1,006,228,560 lbs.

A significant fact of another kind is observed on glancing at the foregoing columns of figures—namely, that while coffee-culture has taken an immense stride in the course of twenty-three years, an astounding development is noticeable in many other countries, and particularly in Central America; and Brazilian planters will do well to reflect that, though the supremacy is decidedly theirs, no means can safely be neglected by them of maintain-

ing their present vantage-ground in the markets of the United States and of Europe. The Brazilian coffee-crops have of late years been abundant. Thus, as has been seen in the table last given, the crop of 1878 was 225,500,000 kilogrammes, or 496,100,000 pounds; that of 1878-'79 was rather smaller, 222,349,800 kilogrammes; that of 1879-'80, still smaller, was 174,543,480; while, on account of 1880-'81, for the first six months, ending on December 31, 1880, there had already been shipped 142,622,820 kilogrammes, or almost seven eighths of the entire quantity exported in the whole of the year immediately preceding. It was regarded as probable that the crop of 1881-'82 would reach 3,000,000 bags of sixty kilogrammes each, or 180,000,000 kilogrammes = 426,000,000 pounds. "The year 1880 was not favorable to coffee exportation," observes a Rio journal. "The European markets remained apathetic during the first half-year, with prices constantly low, while in the United States the presence of large cargoes, presumed to be for account of the Brazilian Government, kept speculators away. At home, holders and buyers found it difficult to agree, as the latter could not go above certain limits in accordance with the situation of the markets the shipments were for; while the sackers, unwilling to sacrifice the article by selling at a low price, endeavored at all hazards to sustain their pretensions. In the last months of the year, when coffee fell considerably in the American markets, some New York and Boston merchants, unable to meet their losses thereby, suspended payments. But no unfavorable impression was felt at Rio; on the contrary, the fortnight in which the news of the failure was received was that of greatest sales here. In rum, the production has increased greatly, but the consumption has increased equally, and its use in the fabrication of liquors has of late been extensive. New means of transport have also assisted, by cheapening freight. Of the 15,000 pipes made in the provinces of Rio de Janeiro, about 9,000 proceeded from the Campos market. Pernambuco followed Rio in production, 9,000 pipes having been exported from Recife, and the home consumption being large. In Rio de Janeiro prices were forty per cent higher than at Pernambuco, preventing shipments thither. In tobacco the year 1880 was unprofitable, if not, indeed, one of the losses and liquidations for all the classes depending on the manufacture of Minas tobacco. The low prices which prevailed almost unchanged throughout the year, despite a considerable decrease in the harvest, were attributed, by the parties interested, to the perturbation produced in commercial relations by the new taxes. But, while it is evident that the taxes contributed to the evils pointed out, it is no less so that the principal cause of the decline in prices to the point of being unremunerative consisted in the narrowness of the circle of foreign customers. And thus the three years of abundant

* In 1881.

crops prevented the expected reaction after the suppression of the imperial taxes, by permitting the supply to exceed the consumption."

It should here be observed that sugar is another Brazilian article of export, produced in all parts of the empire, but particularly in the provinces of Pernambuco and Bahia. The quantity shipped, however, is never or rarely in excess of 140 tons, or about the amount of the total shipments from the little island of Mauritius.

There have been no official returns of port movements published since those given in our volume for 1880, to which volume reference may be made for details relating to Brazilian railways and telegraphs. On the subject of the new line of steamers there mentioned as about to be established between Canadian and Brazilian ports, the following particulars were published in Rio de Janeiro in February, 1881:

"St. Thomas, at which port the steamers of this line will call, is the distributing point for the mails and traffic of the West Indies and Central America, and arrangements are in progress with the Royal Mail Steam Packet Company for an interchange of traffic by through bills of lading at that port for the West Indies, British Guiana, and Central America, and at Rio de Janeiro for the republics of the river Plate, thus bringing all these countries into direct communication with Canada. The direct trade of Canada with these countries for the year 1879 has been as follows: Imports, value \$1,256,817; exports, value \$4,242,112; but it has been carried on entirely by sailing-vessels, and will necessarily be further developed by the establishment of this company. It is proposed to employ four steamers in this service, each of 2,200 tons burden, which will run monthly between Canada and Rio de Janeiro, touching at St. Thomas, Pará, Maranhão, Ceará, Pernambuco, and Bahia, between which ports the coastwise traffic in passengers and goods is very important. The contract with the Canadian Government is for three years certain from 1st of May next, thereafter being terminable by six months' notice, as is usual in the Dominion. The Brazilian contract is for ten years, and it is understood that negotiations are in progress for additional subsidies to the company in respect of intermediate ports of call. The company has the advantage of being introduced to public notice by a strong and influential board, and, in view of all the circumstances, it is reasonable to anticipate that the capital will be at once taken up by those who are in search of a favorable form of investment."

The Telephone Company of Brazil had received, by decree of April 17, 1881, authorization to operate in the empire, and it was hoped that contracts would at once be made for the establishment of telephonic communication between Rio de Janeiro and the neighboring town of Nictheroy.

The Minister of Agriculture had announced

his intention, as the state of the finances had improved, to apply to the following Legislature for an appropriation in the budget for 1882-'83 for an immigrants' house in Rio, to receive and support for eight days 40,000 spontaneous immigrants per annum, for the transportation of 30,000 immigrants from Rio to their destination, for the acquisition of 53,000 acres of land in readily accessible portions of Southern Brazil, and for the survey of public lands and the making of roads to colonies. He had also declared that the Government would not give further aid or make further subsidized immigration contracts.*

The new electoral reform bill mentioned in our volume for 1880 passed the Senate in the session of 1881. We here transcribe the principal clauses of the bill:

ARTICLE I. The nominations of senators and deputies to the General Assembly, members of the Provincial Legislative Assemblies, and any other elective national or local authority, shall be made by direct elections, in which all citizens enrolled as electors, in conformity with this law, may take part. The election of Regent of the Empire shall continue to be made according to the additional act to the Constitution by the electors treated of in this law.

ART. II. Every Brazilian citizen, in accordance with Articles VI, IX, and XCII of the Constitution of the empire, having a net annual income of not less than 200 milreis from realty, trade, business, or employment, is an elector.

The exclusions of said Article XCII include the men of the army, navy, and police corps, and the workmen of the public departments and establishments.

ART. III. The proof of the income referred to in the preceding article shall be made:

SECTION 1. As to income arising from realty:

(1.) When the realty lies within the bounds of the Imposto Predial or Decima Urbana, by certificate from the fiscal department that the realty is assessed at a rental value of not less than 200 milreis, or by a receipt of the same department for payment of that tax.

(2.) When not within the bounds of the Imposto Predial or Decima Urbana:

If consisting of premises situated where neither of those taxes is levied, of rural establishments, or of lands occupied by the owner, then by computing the income at six per cent upon the capital the realty represents, verified by a legitimate deed of ownership or holding, or by a judicial sentence recognizing either.

If not occupied by the owner, then by reckoning the income in the same manner, or by the exhibition of a contract of lease of the realty entered in notarial books a year before, with express declaration of the price of the lease.

SEO. 2. As to income derived from trade or profession:

(1.) By certificate showing inscription, a year previously, in the "Commercial Register," as merchant, broker, auctioneer, chief clerk of a commercial house, master of vessel, pilot, or administrator of a factory.

(2.) By certificate from the respective fiscal department of ownership of a factory, workshop, or commercial, manufacturing, or rural establishment, with a capital of at least 6,800 milreis, paying an imperial or provincial annual tax of not less than 24 milreis in Rio, 12 milreis in other cities, and 6 milreis in towns and other places of the empire.

The taxes referred to in this provision confer electoral capacity only when paid for at least a year before enrollment.

No taxes but those mentioned in this law can serve for proof of income.

* See "Annual Cyclopædia" for 1880.

(3.) By certificate extracted from the book of bank companies or commercial or manufacturing associations, legally authorized, proving the citizen to have been employed, for a year previously, at a salary not less than the legal income.

SEC. 3. As to income derived from public or provincial stocks, by authentic certificate that he has held in his own name, or, if married, in that of his wife, for a year previously, stock yielding annually at least the required income.

SEC. 4. As to income derived from shares of legally authorized banks and companies, or from deposits in government savings-banks or others authorized by the Government, by authentic certificate of holding, for a year before enrollment, in his own or his wife's name, shares or deposits yielding at least the said annual income.

ART. IV. The following are considered to have the legal income, independent of proof:

(1.) Holders of scientific or literary diplomas of any legally recognized faculty, academy, school or institute, Brazilian or foreign. The proof will be the diploma itself, or any authentic document replacing it.

(2.) Clerks in holy orders.

(3.) Citizens who have, for upward of a year before enrollment, been directing houses of education or teaching, or have been public teachers, by effective or life-long nomination, or have been teaching in private schools or colleges attended by at least twenty scholars.

A certificate from the inspector or director of public instruction in Rio or in the provinces shall serve as proof thereof.

(4.) Ministers and councilors of state, senators, deputies to the General Assembly, members of the Provincial Legislative Assemblies, the effective vereadores and the justices of peace with number.

(5.) Employés of the diplomatic or consular corps.

(6.) Officers of the army, navy, and police corps, including the active and reserve, retired and honorary with pay.

(7.) Imperial, provincial, or municipal functionaries having pay of over 200 milreis, with right of superannuation.

(8.) Serventuários for life in office of justice, with allowances of at least 200 milreis per annum.

ART. V. Any citizen unable to prove the legal income by any of the modes laid down in the preceding articles will be permitted to do so by the rental value of the house or houses he has lived in, with his own earnings, during at least a year before, the rental value paid by him being 400 milreis in Rio; 300 milreis in the cities of Bahia, Recife, Maranhão, Para, Nictheroy, São Paulo, and Porto Alegre; 200 milreis in other cities; 100 milreis in towns and other settlements; also by rented farms, etc., paying 200 milreis a year rent.

(This proof must be made before a judge.)

All certificates and other documents required for enrollment of electors are exempt from stamp and any other taxes.

ARTS. VI to VIII treat of the enrollment by the municipal judges, with revision by the juiz de Direito, and appeal to the Relação.

ART. IX. Excepting restrictions hereafter enumerated, every citizen included in Article II is eligible as senator, deputy to the General Assembly, member of the Provincial Legislatures, vereador, justice of the peace, and any other charge created by law.

Only section. A special condition of eligibility is:

For senator of the empire, to be over forty years of age, and have 1,600 milreis income.

For deputy to the General Assembly, member of the Provincial Legislature, to be over twenty-five years of age, and have 800 milreis income; and, as to naturalized persons, have resided six years in Brazil.

For vereador and justice of the peace, that of residence for at least two years within the municipality.

ART. X enumerates a long list of functionaries in-

eligible as senator, deputy, or provincial member, within the region over which their functions extend, and the ineligibility includes engineers, contractors, furnishers, and others interested in public, guaranteed, or subsidized works, or deriving pecuniary profit from state, province, or municipality works. Shareholders, however, are not included.

ART. XI. No remunerated public functionary can hold his office during the session, if he accepts the legislative mandate; and if he accepts a senatorship, he must at once be superannuated.

Excepting ministers and secretaries of state, councilors of state, bishops, ambassadors and envoys extraordinary on special mission, presidents of provinces, military and naval officers, as to seniority and pay, and senators, etc., obtaining license from their respective chambers.

ART. XII forbids the election of ministers of state as senators while holding office, and for six months afterward, unless the vacancy occurs in the native province or that of domicile.

ART. XIII forbids the acceptance by senators, and by deputies and members of provincial assemblies during the session and six months after, of any paid government or provincial employment or commission, except of counselor of state, president of province, ambassador or envoy extraordinary, bishop, and commander of sea or land forces. It also forbids their obtaining concessions, privileges, contracts, etc., but not patents. Two years of residence in the province is required for election as provincial member.

ARTS. XIV and XV treat of the elections in general.

ART. XVI treats of elections of senators, which must be by separate triple lists for each vacancy.

ART. XVII treats of elections of deputies to the General Assembly, which will be in districts of one deputy. Rio is to have three districts, Bahia and Recife two each.

ART. XVIII treats of elections of vereadores and justices of the peace.

ARTS. XIX to XXI, of penalties.

ART. XXII postpones all elections, except as provided for in Article XXIX of the Constitution, until the conclusion of the first general enrollment, and the Government may delay to the last working day of December, 1881, the general election of deputies to the next Legislature.

ART. XXIII provides for collecting, in a distinct part of the instructions to be issued for the execution of the law, all existing provisions and decisions in harmony with it, to be submitted to Parliament for approval.

ART. XXV revokes contrary provisions.

A novel event for Brazil was that of general elections by a free constituency, untrammelled by government pressure and unbiased by government interference. It was apprehended, however, that electoral reforms may not prove to be an unmixed blessing for Brazil just yet, it being doubtful whether the masses are sufficiently enlightened to see the necessity of breaking with traditional evils and allowing themselves to be carried along by the current of modern progress. The late elections threw a Liberal majority into the Chamber of Deputies, while in the Senate the Conservatives were and still remain in majority; hence the position of a Liberal Cabinet must needs be embarrassing, particularly so when hampered by the parliamentary requirement of an absolute majority in the formation of a quorum. The present Cabinet has little to fear on that score; but, in the case of a successor, the difficulty would at once arise, unless the Liberal majority in the Chamber of Deputies should give

proof of unprecedented assiduity, disciplined union, and abnegation of self-interest.

Nevertheless, and in face of all opposition, the spirit and letter of the emancipation law* of September, 1871, continue to be observed, and every measure is taken that, directly or indirectly, contributes to the accomplishment of the great work of abolition. In December, 1880, the Provincial Legislature of Rio de Janeiro imposed a tax of \$500 on each slave brought into the province, except in the case of slaves already owned when the law was passed, and merely transferred from an estate outside the province to another within the province, and the property of the same planter. A tax of \$15 was imposed on the register of slaves moved from one municipality to another. A bill, signed by the majority of the members, was brought into the São Paulo Assembly, imposing a fee of \$1,000 for the register of every slave, not inherited, brought hereafter into the province. Half the fee was to be applied to emancipations. Thus São Paulo and Minas-Geraes have followed the course of the province of Rio de Janeiro to stop, by prohibitive taxes, the further introduction of slaves.

There were reports that the question of Chinese labor would be brought to test before long, "an eminent American contractor having undertaken to forward to Rio de Janeiro a number of coolies, under contract to serve five years on plantations, at five dollars a month, with rations."

BROWNING, ORVILLE H., born in Harrison County, Kentucky, 1806; died August 10, 1881, at Quincy, Illinois. Early in life Mr. Browning removed to Buckner County, where he went through a course of classical studies at Augusta College, while officiating as clerk in the county and circuit courts. He afterward studied law and was admitted to the bar. In 1831 he went to reside in Quincy, Illinois, where he practiced his profession. Having served through the Black Hawk War, he was elected in 1836 to the Illinois Senate, and four years later to the Lower House, in which he served two years. At the Bloomington Convention he co-operated with Abraham Lincoln in organizing the Republican party of Illinois. In 1860 he was a delegate to the Chicago Convention which nominated Mr. Lincoln for the presidency, and during the war he was an active supporter of the Government. In 1861 Governor Yates appointed Mr. Browning to fill a vacancy caused by the death of Mr. Douglas, United States Senator from Illinois. In this position he served for two years with distinction. While in Washington he engaged in the practice of law with Hon. Jeremiah Black and Hon. Thomas G. Ewing. President Andrew Johnson appointed Mr. Browning Secretary of the Interior, and he also acted as Attorney-General for a brief time, upon the retirement of Henry Stanbery, of Ohio. At the expiration

of his service as Secretary of the Interior, Mr. Browning resumed his profession in Quincy, where he continued to reside in active practice up to the time of his death. His State laments his decease as the loss of an able public servant.

BULGARIA, a principality of Southeastern Europe, which was created in 1878 by the Treaty of Berlin, as a dependency of Turkey. Reigning Prince, Alexander I,* elected in 1879; area, 63,972 square kilometres (1 kilometre = 0.386 square mile); population on January 1, 1881, 1,995,701. The population of the principal cities on the same date was as follows: Sofia (the capital), 20,541; Rustchuk, 26,867; Varna, 24,649; Shumla, 22,921; Widdin, 13,602; Tirnova, 11,500; Sistova, 11,438. The only railroad in operation was that from Rustchuk to Varna, 224 kilometres. The number of post-offices in 1879 was 35; the number of letters and postal-cards sent, 337,600; of printed matter and packages, 2,060; of newspapers, 402,454. The length of the government telegraph lines in 1879 was 2,057 kilometres, and of the wires 3,021 kilometres. The number of offices was 31, and of dispatches 99,350. The National Assembly consists of the Exarch or head of the Bulgarian Church, of one half of the bishops, one half of the presidents and members of the Supreme Court, one half of the presidents of the district courts and of the commercial court, and of deputies of the people—one member representing 20,000 persons.

The people of the principality were in 1881 deprived of the Constitution, which, in accordance with the Treaty of Berlin, they had formed to suit themselves. The change from a constitutional monarchy, with exaggeratedly democratic popular rights and guarantees, to an autocratic state, was accomplished by a virtual act of usurpation on the part of their elected prince, Alexander. On the 9th of May the Prince dissolved the National Assembly, and declared the Constitution suspended. The incompetency of the administration, and the mistakes of the majority, whose alleged follies and short-comings had prompted the arbitrary course of the sovereign, were in a measure confessed by the chief members of the Liberal party themselves. Their parliamentary leader, the Minister-President Zancoff, proposed, instead of the total revocation of the Constitution, as demanded by the Prince, its suspension for three years, during which time the Prince should govern with the assistance of a Cabinet and of a Council of State, composed of foreign experts, selected by the Assembly.

The draft of a constitution made by Prince Dondoukoff-Korsakoff was constructed in harmony with the liberal views of the popular party, who have all along carried with them

* For a biography of Alexander I, see "Annual Cyclopædia" for 1879, article ALEXANDER I; for an account of the history of the race, of the progress of education, of newspapers, of industry, and of the Bulgarian Church, see "Annual Cyclopædia" for 1878, article BULGARIA.

* See "Annual Cyclopædia" for 1871.

the majority of the Bulgarian nation. The Russian commissioner fostered the aspirations of the Liberals for a Great Bulgaria, and probably hoped himself to be chosen Prince of the Pan-Bulgarian nation. His draft was modified in a radical sense by the Constituent Assembly at Tirnova. The Constitution, while embodying extreme principles of popular sovereignty based upon universal suffrage, was, in respect to its provisions for the practical conduct of the Government, in many respects imperfect, as every paper constitution instituting a new political system must be of necessity. The Prince possessed no sympathy for popular institutions, and attributed all the friction and the abuses of the Government to the democratic features of the Constitution. The Conservative minority, from whom he had first chosen his ministers, were composed of the semi-aristocracy of the *Tchorbadjees*, who had acquired wealth under the Turkish *régime*, and had come to a *modus vivendi* with the Mohammedan authorities. The Young Bulgaria party, led by men who in the Universities of Vienna and Moscow had imbibed the ideas of Western liberalism and of Russian radicalism, and who were inspired with an enthusiastic national ambition, presented the only doctrines which appealed to the intelligence and patriotism of the people. Their agitation had led to the Turkish war and the independence of Bulgaria, and the leadership of the people and direction of the destinies of the young state naturally devolved upon them. The Prince's repugnance to their advanced ideas of liberty, and his contempt for their nationalistic patriotism, were so fixed that he regarded the direction of affairs by the *doctrinaires* of the Liberal party as a political impossibility.

The difficulty of working the Constitution lay not so much in the "disorganization at home," which Alexander declared to be the effect of popular government in Bulgaria, as in the fact which he embodied in his twin charge, that the Bulgarian Parliament had brought the country into "discredit abroad." This resulted from the reckless thoroughness with which the Liberals were inclined to carry out the principle of Bulgaria for the Bulgarians, in entire disregard of the wishes of the powerful neighboring empires, on whose good-will their country's existence as an independent nation must in a great measure depend. The overweening jealousy of outsiders, expressed in the motto "*Bulgaria farà da se*" of the Liberals, and exemplified in the acts which were denounced as obstructive by the Austrian Government, and those which were construed as ingratitude by the Russians, was the outcropping of the ancient masterful spirit of the Bulgarians, and had asserted itself under Turkish rule in the repudiation of the dictation of the Phanar, their frequent uprisings against the Porte, and their acquisition of the right of entire local self-government.

The administration of the finances by the

Liberal Government had been most successful. Through a redistribution of taxes, they had nearly doubled the revenue, without increasing the burden on the people. The general rates were not greater than under the former Government, and were one third lower than under the Turkish rule. The people, on the contrary, were enabled, owing partly to the new highways and similar public works to which some of the additional revenues were applied, but chiefly to an abundant harvest, to pay the taxes more easily than ever before. When the Conservatives handed the administration over to the Liberals, they had reduced the surplus of 12,000,000 francs received from Prince Dondoukoff-Korsakoff to 7,000,000, during their one year's management of public affairs. The budget which they delivered to their successors provided another deficit for the coming year, the revenue being placed at 16,000,000 francs, and the expenditures at 19,000,000 francs. The revised budget of the new administration balanced revenues and expenditures at 27,000,000 francs, and their estimate for the following year fixed them both at 30,000,000 francs. When dismissed from office by the *ukase* of the self-constituted autocrat, they left a surplus of 17,000,000 francs cash in the Treasury. The excess of revenue was expended in public works, roads, barracks, hospitals, and public-office buildings, and in establishing a system of higher education and erecting buildings for the elementary schools, which are maintained by the communities. For the latter, of which there are 1,088, affording instruction to 56,354 children, a system of state inspection was inaugurated. Nine secondary schools have been established in the principal towns, including two for girls, besides a classical college at Sofia and a priests' seminary at Liscovatz. There is known to have been more or less corruption in the management of the public funds, but they were employed in the main for judicious and useful purposes. Although the people complained of the Government, from a chronic habit of resenting taxation, they were as lightly taxed as ever before, and never had experienced so much prosperity and general well-being. A reform in the treatment of the Mussulman population by the Liberal Government was instituted before their dismissal from power. Persecutions were checked; efforts were made to persuade Christians, who had seized the property of refugee Mohammedans, to return it to the owners, and, in communities having a preponderant Mussulman population, Turkish mayors (*Kmets*) were appointed. The change in policy was sufficient to stop the emigration, thus keeping in the country a useful agricultural population, as well as strengthening the hands of the Liberals by retaining an element hostile to Russia.

Prince Alexander, after he had suspended the Constitution by proclaiming it unsuited to the requirements of the country, summoned a

Great National Assembly to revise its provisions. The dismissal of the Assembly, and the irregular method by which the Prince sought to have it abrogated by a kind of *plébiscite*, were both infractions of the express provisions of the Constitution, which prescribes that the power to alter and amend shall be exercised only by the Extraordinary National Assembly, convoked in accordance with the action of the Assembly. Prince Alexander's justification of his *coup d'état* was that the Constitution had brought discredit upon Bulgaria abroad and bred domestic disorder. The Assembly, it was charged, was filled in great part with illiterate members, who were incapable of judicious legislation, who wasted their time in fruitless party strife, and imposed incompetent and corrupt Cabinet advisers upon the Prince, and were also engrossed in intrigues to maintain their positions, and had instituted a foreign policy which endangered the existence of Bulgaria. The Liberal party, who maintained that the traditions and character of the Bulgarian people demanded a democratic form of government, proposed to remedy the admitted evils by reducing the number of members in the Assembly, and lowering the age of eligibility from thirty to twenty-five, in order to admit young men who had been educated abroad and were returning in considerable numbers. The strife in the Assembly had been in great measure due to the course which the Prince had pursued, at first, of choosing his ministers from the minority. As soon as he allowed the formation of a Liberal Cabinet, the Assembly applied itself to legislation, and in the period of eight months matured twenty-seven bills, the most important of which were measures to improve national education and to raise the moral qualifications of the clergy, increase their stipends, and free them from the domination of the hierarchy.

The democratic character of the Constitution which, in accordance with the conclusions of the conference of plenipotentiaries at Berlin, the Bulgarian people had framed for themselves, rejecting the extremely liberal Constitution drafted by the Russian commissioner, had from the first excited repugnance and apprehension in the Russian Government. It mistrusted the influence in Russia of the large measure of popular liberty enjoyed by the Slavs across the Danube. The purpose of the Liberal majority to remove the Russian officers who had command of the army, which they had brought to a high standard of discipline and efficiency, was the occasion for a trial of strength between the popular party and the Russian *entourage* of the Prince, re-enforced by court and diplomatic influences of the Czar's Government. The Austrian Government had shown antipathy to Bulgarian liberties from the beginning, and was incensed at the Liberal party on account of its hostility to the Austrian claim to exclusive powers over the Danubian

navigation, a hostility which was shared by the Roumanians.

The Liberal party during its administration of the government had offended three influential classes by reforms affecting them which were in the popular interest. The Russian element was incensed by the over-jealous attitude of the Liberals, whose project of dismissing Russian officers from the military and civil establishments, and of reducing all foreigners in Bulgarian service to an equal footing with natives, precipitated the *coup d'état* which it aimed to avert. The ecclesiastical reforms which subordinated the church to the state, and restricted the authority of the bishops over the parochial clergy, aroused resentment in ecclesiastical circles. The local magistracy also was alienated by a measure of administrative reform which curtailed the powers of the *chorabji* class, or village magnates. The young German prince and Prussian Guard lieutenant, who had been selected as the constitutional ruler of the new principality, regarded with impatience and contempt the extreme democratic provisions of the organic instrument which he had sworn to observe, and for the first year of his reign refused to take his advisers from the majority. In his plan for destroying the national Constitution, he was certain of the active co-operation of the Russians, of the well-wishes of Austria, and of the neutrality of Germany. The support of the civil, military, and clerical oligarchies, which the Liberal party had effectually estranged, was of indispensable assistance. In the country districts a considerable degree of popular animosity against the administration was already in existence, which was skillfully worked by the electioneering agents of the Prince and his Russian allies, in the extraordinary election which was to decide the fate of the national Constitution. Military tribunals were constituted by the Prince's edict to try any officials who should exert their influence on behalf of Liberal candidates. By these courts-martial any Liberal could be arrested, and even condemned to death. Two of the Liberal leaders, Zankoff and Slaveikoff, were arrested before the election, and, when released after a short confinement, were forbidden to go to Sofia or Tirnova. A Russian officer was placed in every election district as a commissioner, and a large number of others were detailed as sub-commissioners of elections. The diplomatic agent of the Russian Government, Hitrovo, was the active lieutenant and principal adviser of the Prince. Peasants were brought into the cities to vote, and carefully guarded from the allurements of the Liberals by the military. Bands of peasantry were encouraged to attack and maltreat any Liberal who was too outspoken. In the towns the election was conducted with scarcely the pretense of legality. Voters were kept from approaching the urns by the soldiery. In some cases crowds of electors collected about the polling-places, and

clamoring for their right to vote, were dispersed by a charge of bayonets. By corruption, violence, and intimidation, and frauds of every kind, a majority was obtained in most of the towns. One or two of the Liberal strongholds were declared disfranchised on account of disorders. Such means did not fail to furnish a subservient popular convention, more illiterate, however, than the Assembly complained of. The Great National Assembly, thus composed, assembled at Sistova, and accomplished the usurpation of Alexander by their vote annulling the Constitution, on the 13th of July.

BURCH, JOHN C., born in Jefferson County, Georgia, October 21, 1826; died in Washington, D. C., July 28, 1881, of organic disease of the heart. His parents were Georgians, and with them he resided in Fayetteville until 1862. Having received a preparatory education in his own State, Mr. Burch entered the freshman class of Yale College in 1843, and graduated in 1847. He then returned to Georgia and studied law in the office of Governor Charles J. McDonald, of Marietta, one of the most eminent jurists of the State. In 1849 Mr. Burch was admitted to the bar, and opened an office at Spring Place, Murray County, where he remained three years, and then removed to Chattanooga, Tennessee. Here he established a successful practice, and in 1855 was elected to the General Assembly as the member for Hamilton County. The House of Representatives, in which he served, was equally divided in politics, and, though one of the youngest members, Mr. Burch took a foremost place as debater and parliamentarian, and was one of the recognized leaders of his party. The session was a long and important one, in which Know-nothingism figured as a new phase in politics. In the debates and discussions growing out of that issue Mr. Burch achieved State-wide reputation, and in 1857 was elected Senator from the district composed of Hamilton, Bradley, Rhea, Bledsoe, Sequatchie, and Marion Counties. Though barely of senatorial age, he was chosen Speaker of the body. In 1859 the Nashville "Union and American," the organ of the Democratic party of Tennessee, lost its leading editors—Messrs. Poindexter and Eastman—and, acting under the counsel of the party leaders, Mr. Burch assumed the editorship of the paper, which duty he performed during the presidential campaign of 1860, and the critical agitation which culminated in civil war. After the fall of Fort Sumter he enlisted as a private in Company C, Rock City Guards, but was soon after chosen lieutenant of another company. Before going into the field, he was appointed aide-de-camp to Major-General Gideon J. Pillow, then in command of the Provisional Army of Tennessee, which was organized to support the army of the Southern Confederacy. He was soon promoted to the office of lieutenant-colonel, and when Tennessee became a member of the Confederacy he was made assistant adjutant-general, and continued in that

capacity during the war, serving on the staffs of Generals Pillow, Forrest, and Withers. At the expiration of the war he returned to Nashville, and resumed the practice of law until September, 1869, when he purchased a controlling interest in the "Union and American," and again became its editor-in-chief. In 1873 he was appointed by Governor J. C. Brown Comptroller of the State of Tennessee. This service was rendered with great ability and rigid integrity, and upon retiring from it he returned to journalism, in which he continued until 1879. On the accession of the Democratic party to the power of the majority of the United States Senate, Colonel Burch was elected secretary of that body over a number of formidable competitors, each of whom was an ex-member of the United States Senate or House of Representatives, and this position he held at the time of his death.

BURNSIDE, AMBROSE EVERETT, born at Liberty, Indiana, May 23, 1824; died at Bristol, Rhode Island, September 13, 1881. In 1843 he was appointed from Rhode Island to the United States Military Academy, where he graduated in 1847, and was made brevet second-lieutenant of the Second Artillery. During the war with Mexico, 1847-'48, he served at the city of Mexico, and received his full commission as second-lieutenant. In 1848-'49 he was stationed at Fort Adams, Newport, Rhode Island. Engaged on frontier duty at Las Vegas, New Mexico, in 1849-'50, he took part in a skirmish there with Iacarillo Apache Indians, August 23, 1849, receiving a wound. From April, 1851, to March, 1852, he was with the Mexican Boundary Commission, acting quartermaster. On December 12, 1851, he was commissioned as first-lieutenant, and on returning from New Mexico he was again stationed at Fort Adams, Newport. Having invented a breech-loading rifle, he resigned from the army October 2, 1853, to engage in manufactures, and pursued that business in Bristol, Rhode Island, from 1853 to 1858. In the year 1856 he was appointed one of the Board of Visitors to the United States Military Academy. During his residence in Rhode Island he was active in the militia, and from 1855 to 1857 he held the rank of major-general. Finding the business of manufacturing arms unsuccessful, General Burnside became cashier of the land department of the Illinois Central Railway Company in 1858, and removed to Illinois. In 1860-'61 he was treasurer of the same corporation. When the civil war broke out, he at once tendered his services to the Union, and was appointed colonel of the First Regiment of Rhode Island Volunteers, which marched to Washington four days after the President's call for troops was issued. At the first battle of Bull Run he commanded a brigade, and was soon after made brigadier-general. In command of an expedition to North Carolina in January, 1862, he captured Roanoke Island, Newbern, and Beaufort. At the close of the campaign on the Peninsula he was re-

called and ordered to Fredericksburg. There he remained until General Pope was defeated at the second battle of Bull Run. In March, 1862, General Burnside was commissioned major-general of volunteers, and during the Confederate invasion of Maryland he was under General McClellan's command. At the battle of Antietam he commanded the left wing. On November 10, 1862, he took command of the Army of the Potomac, superseding General McClellan, which position he retained until January 26, 1863. In 1862 the State of Rhode Island presented to him a sword of honor in testimony of his services at Roanoke Island. While in command of the Army of the Potomac he moved from the Rapidan to Fredericksburg on the Rappahannock, with a view to crossing the river at that point and moving thence upon Richmond. General Lee, however, took possession of the heights on the opposite bank before Burnside was ready to cross, and when, on the 12th of September, the Union forces crossed and endeavored to break the Confederate lines, they were repulsed after repeated attacks. For this movement he was severely criticised by several officers of high rank, whose removal he requested, tendering his resignation of the command if his request was not complied with. His resignation was accepted, and General Hooker succeeded him. In the following March he was in command of the Department of Ohio, and soon after assuming this position he arrested C. L. Vallandigham on account of his defiant utterances. The pursuit and capture of Morgan's raiders also occurred while he had charge of this department, soon after which General Burnside undertook to drive the Confederates from East Tennessee; in this he was successful, and for it received the thanks of Congress. Late in September, 1863, the Ninth Corps, which had been detached from Burnside's command, was restored to it. In the mean time General Lee had sent General Longstreet to Tennessee with a strong force from Virginia. Burnside fell back to Knoxville, where he was besieged until the beginning of December, when the siege was abandoned on the approach of General Sherman with a detachment of General Grant's army. Burnside was then relieved from his command in the West, and in January, 1864, was restored to that of the Ninth Corps, with which he followed Grant over the Rapidan—Grant crossing May 4th and Burnside May 5th. The battles of the Wilderness, Spottsylvania, and North Anna succeeded—the corps being now attached to the Army of the Potomac, under the immediate command of General Meade, Burnside waiving his seniority in rank. His corps was prominent in subsequent operations down to the siege of Petersburg. During the early part of this siege, Burnside's lines were close to those of the enemy, and opposite them was a strong redoubt forming an important part of the Confederate defense. Beneath this work General Burnside caused a

mine to be run, and blew it up on the 30th of June; but the general assault, which had been planned to follow, was not made, and the affair was a failure. Burnside then proffered his resignation, which was not accepted, but he was granted leave of absence, and not being recalled to active service he resigned April 15, 1865. As an officer he was much loved by his subordinates. After his retirement General Burnside was engaged in business in Rhode Island, having been a director in the Illinois Central Railroad Company, the Narragansett Steamship Company, and President of the Cincinnati and Martinsville Railroad Company, of the Rhode Island Locomotive Works, and of the Indianapolis and Vincennes Railroad Company. In 1866 he was elected Governor of Rhode Island, and was afterward honored with two re-elections. In 1869, before the expiration of the third term, when he was asked for the use of his name again, he publicly announced that he would not be a candidate for re-election. The following year he visited Europe, and was admitted within the German and French lines in and around Paris, acting as a medium of communication between the hostile nations, in the interests of conciliation. On his return home he was again summoned to public duties, being elected to the United States Senate as successor to ex-Governor William Sprague. When a similar election was required he was again chosen, and had entered upon his second term at the time of his death.

General Burnside resided periodically in Providence and Bristol, the latter being his summer home, and it was here that he entertained General Grant in the summer of 1875. He died without family, his wife having closed her life in March, 1876. In the hearts of his friends and associates General Burnside's memory is preserved with the kindest respect; the people of his State admired and trusted him, and the veteran soldiers delighted to honor the veteran leader on many a hard-fought field.

BURNSIDE, JOHN, born in Ireland; died June 29, 1881, at Greenbrier, White Sulphur Springs, Virginia. Mr. Burnside was at the time of his death one of the few millionaires in the South, and the largest sugar-planter in the United States. His reticence concerning his age leaves that point to conjecture, but it is supposed by his most intimate friends that he must have been at least seventy-eight when he died. Like many other men of large fortune in America, Mr. Burnside commenced life in extreme poverty, and from filling the humble position of clerk to Mr. Andrew Beirne, a merchant in Fincastle, Botetourt County, Virginia, he gradually acquired such importance with his employer as to be made by him the partner of his son in a wholesale dry-goods house at New Orleans. During a great financial panic, Mr. Burnside and his partner had the nerve to extend credit when other merchants refused all risks. In this way the firm of Beirne & Burn-

side spread their business to the farthest points of the South, and laid the foundation for their remarkable future prosperity. Subsequently Mr. Burnside associated himself with another firm under the title of Burnside & Co. About 1852 he began to make investments in sugar-plantations, first among which were those known as Houmas and Orange Grove, for which he paid \$1,000,000. At the time of his death he owned ten of the most highly cultivated and best improved plantations in Louisiana, the value of his possessions being estimated at between \$4,000,000 and \$5,000,000. At the time of the war he owned 2,200 slaves, but, notwithstanding his heavy loss by their emancipation, he continued to accumulate wealth in the dry-goods business, from which he virtually retired in 1857. He was never married, and it is thought he had no relatives in this country. Among the distinguished guests whom he entertained were the Grand Duke Alexis, Dom Pedro, and General Hancock. Although not

noted for his public spirit, he was given to personal charities that he carefully concealed from the world, and in his own way he contributed largely to the prosperity of his immediate community. He was one of the first to try planting with free labor on an extensive scale, and his eminent success in the venture induced others to follow his example with similar results. Mr. Burnside kept constantly in his employment between two and three thousand persons, who were promptly and liberally paid. His money was spent chiefly in Louisiana, and his annual expenditure in New Orleans amounted to \$300,000 in the purchase of plantation supplies. At the time of his last sickness he was arranging to have built on his plantation in Ascension a sugar-house to cost \$100,000. According to the sugar report for the season of 1879-80, the plantations now included in his estates produced 5,373 hogsheads of sugar and 9,074 barrels of molasses, valued at about \$600,000.

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CALIFORNIA. The twenty-fourth session of the Legislature of California commenced on January 3d. In the Senate, Lieutenant-Governor Mansfield took the chair, and William M. Johnston, of Sacramento, was chosen President *pro tem.* In the House, William Henry Parks, of Yuba, was chosen Speaker. The session was continued sixty days, as provided in the Constitution of the State, and adjourned on March 4th. More than eight hundred bills were introduced, but only fifty-one received the signature of the Governor. It was anticipated that the new Constitution would shorten and simplify legislation. It contains a provision against special legislation, and on this ground the length of the session was limited to sixty days. These anticipations were disappointed.

Among the measures considered was the repeal of the *débris* act of the previous session. This was defeated. The nature of the injury for which a remedy was sought in the passage of the *débris* bill was briefly stated in the "Annual Cyclopædia" of 1880. It arises from the effects of hydraulic mining, and has, thus far, most seriously occurred on the American, Bear, and Yuba Rivers. It consists in a practical burial of large areas under the mining detritus or "slickens" and sand. The property so buried is, in fact, so completely deprived of agricultural value that in the opinion of competent judges it can under the most favorable circumstances be fit for nothing but raising swamp timber for from fifteen to thirty years. As to the extent of the damage done in this way, the State Engineer, in his latest report, declared that he believed the destruction which might be classed as direct in the loss of agri-

cultural property could with safety be estimated as follows:

Landed property.....	\$4,000,000
Improvements.....	2,000,000
Total.....	\$6,000,000

The indirect damage to property is most apparent along the main streams—the Feather River, and the upper and lower Sacramento River. For the most part, the difference between direct and indirect damage to property is more in the degree of harm inflicted than in its character. This, however, is not invariably the case. The settlers along the lower Sacramento have, for example, expended millions of dollars during the past fifteen years in attempting to reclaim swamp and overflowed lands. The failure which has followed these courageous and spirited efforts must be ascribed to the constant operation of those natural forces which the processes of hydraulic mining put in motion, and which from year to year have been counteracting and nullifying the most determined attempts at reclamation. The State sold the swamp-lands on the condition that they should be reclaimed, and should remove obstacles which render the fulfillment of the conditions thus imposed by it impracticable.

The indirect injuries which may be traced without any doubt or difficulty to hydraulic mining are, however, very extensive. In all these cases the future can be predicted from the past. On the one hand are lands already covered with the flood of sand and *débris*. On the other hand are lands threatened with this flood. And the flood is continually advancing. The low lands of the whole Sacramento Valley

are, in fact, threatened with unavoidable destruction. That is to say, an area inclosing from twelve to fourteen hundred square miles of fertile territory is indirectly damaged, and is menaced with ultimate destruction.

Nor is this the whole of the situation, for the injury done to the Sacramento Valley extends, by a reflex action, to the low lands of the San Joaquin, and to the lands about the upper bays by a direct movement. It may, therefore, be said without exaggeration that the indirect damage actually embraces an area extending from Oroville and Chico to Benicia on the Strait of Carquinez.

It is necessary to bear in mind that the destruction of the navigability of the Sacramento River is involved. This would deprive the whole of Northern California of competition in transportation. The wheat-crop alone of that region may be estimated at five hundred thousand tons. It may also be fairly calculated that the removal of competition would result in a rise of freight-rates to the extent of \$2 per ton. Thus, then, an additional tax of \$1,000,000 a year on the movement of the harvest alone is involved in this question, as concerns Northern California. An illustrative instance of the influence of river improvements on freight-rates is to be found in the effect produced by deepening the channel at the mouth of the Mississippi. The competition offered by that river after the opening of its mouth reduced the aggregate freight charges on the first year's products of the Mississippi Valley \$50,000,000.

Taking the counties of Colusa, Placer, Sacramento, Solano, Sutter, Yolo, Yuba, Butte, and Tehama, and estimating the assessed value of the real estate other than town lots, and the improvements, and of the town lots and their improvements, and making what seems a sufficient deduction from the aggregate, it is estimated that the property in these counties threatened with partial or complete destruction can not properly be put at a lower amount than \$60,000,000.

The evidence furnished by the State and consulting engineers shows that the water-ways are in danger of destruction, and that, unless sustained and systematic treatment is applied to the rivers, they will shortly cease to be navigable, and that both the Feather and Sacramento Rivers are in a condition in which an unusual flood might cause them to abandon their present channels, and spread themselves abroad through the low lands between Knight's Landing or Grey's Bend and Suisun Bay, ruining the country everywhere, and changing the very face of the State.

Apart from the burden that would fall upon the northern region of the State by the removal of the means of competition by the rivers, this injury would affect a population of at least one hundred and fifty thousand, of whom one third would be directly and two thirds indirectly concerned. The effect upon the value of land can not be ignored. It is evident that

if through any cause the cost of transportation is raised two dollars a ton, the products of the region so affected must by this change be put at an increased disadvantage equal to the removal of their lands from a market a distance represented by the enhanced ratio of transportation. Their lands are in fact thereby put as much farther from the market as two dollars will carry a ton of wheat, and the consequence must be to lower the value of land exposed to such an impost.

An approximate estimate of the loss of values to be apprehended in this direction from the destruction of the principal water-ways can not be fairly stated at less than \$100,000,000.

This leads to a statement of the value and importance of hydraulic mining, which is the cause of the present and prospective damage to the State. This mining has been carried on for twenty-five years, and the present annual output of the hydraulic mines is estimated at from \$12,000,000 to \$14,000,000. It is therefore apparent that an estimate of \$150,000,000 for the whole period of their working is not extravagant. It is equally clear that while no accurate estimate of their future output can be made, it is safe to assume that it will be larger than it has been in the past, since the extent of gravel-bearing claims remaining unworked is practically unlimited, and since many very extensive workings have either just been opened or are not yet opened so as to be largely productive. Enough is known to make it plain that the hydraulic mines have contributed greatly to the prosperity of the State, and will contribute still more largely in the future, if suffered to proceed. A very considerable population is supported by these mines, estimated at 30,000, and the indirect support is very much more extensive. The counties in which the principal hydraulic mines are situated may be said to depend almost entirely upon the mining industry. All values in those counties are therefore dependent upon the prosperity of this interest. What this involves may be perceived by reference to the comprehensive decline of values in Virginia City consequent upon the depreciation of the mines on the Comstock lode. In that case the mining population was thinned out, the value of real property fell to panic prices, and the general effect upon the prosperity of the community was as disastrous as though every man in the city had been directly interested in the mines. Similar results must always follow where the intimacy of the relations between the various interests is as great as in the mining counties of California. The suppression of hydraulic mining, therefore, would in all probability be productive of a general collapse throughout this region. Not only would there ensue a positive and direct loss to the State in the cessation of auriferous production, but the entire industries, commercial activities, and general civilization of the mining counties would be virtually destroyed, and the tax-paying as well as the wealth-producing

capacities of those counties would be paralyzed. It is, however, evident that the hydraulic mining interest is an important one. It may be said, as regards its annual output, to represent a fixed capital of \$100,000,000, and directly and indirectly it affords support to a considerable population. Even the farmers in the valley, who occupy lands on the verge of the mineral area, owe a portion of their prosperity to these mines, which create a brisk demand for their produce, and a demand the loss of which would be severely felt.

The engineers were required to ascertain the extent of the injury, present and prospective, and whether remedial measures were available. Their reports have shown that the extent and gravity of the damage and menace are far greater than had been commonly supposed; that it was possible to counteract the ill effects of hydraulic mining by a systematic treatment of the rivers; that such a systematic treatment of the rivers was necessary in any case, since it would be impossible to meet the exigencies of the situation by merely stopping hydraulic mining.

The most formidable danger to the low lands is due to the deposit in the mountain-streams and tributaries of enormous quantities of heavy sand, which is being washed down lower every year. The deposit of this sand must continue until the entire Sacramento Valley is covered and destroyed, even though hydraulic mining should be stopped at once, until remedial measures are adopted. In fact, it may be asserted that the stoppage of hydraulic mining in the present stage of the *débris* evil would produce no alleviation whatever. There is a mass of mining *débris* now collected in the cañons of the mountains sufficient to cover the Sacramento Valley completely a couple of feet deep, and this matter will continue to be washed down every winter until the beds of the river are entirely choked, and until the destruction inflicted upon the valley agricultural lands has become past relief or reparation.

The surveys of the engineers resulted in ascertaining the practicability of remedial measures, but at the same time showed that the subject was too extensive to be dealt with locally. It was particularly insisted on by the engineers that sustained and systematic treatment of the rivers must be undertaken, or that it would be useless to attempt anything. While, therefore, they held out the encouraging consideration that by such a systematic treatment the condition of the rivers might be made even better than it had ever been, they contended that nothing less comprehensive than the methods they proposed would be adequate. It was estimated by the engineers that the expenditure required for the construction of suitable works could not exceed \$10,000,000, and that it might not exceed \$5,000,000. What was known as the drainage bill was prepared and passed at the previous session of the Legislature. This act levied a benefit assessment upon the

districts to be aided; the hydraulic miners were called upon for extra contributions, and a tax of five cents on the hundred dollars was made general throughout the State.

A large portion of the session of the Legislature was occupied in the discussion of the bill to repeal the act, which, however, was defeated on the first reading in the Assembly.

The plans of the engineers embrace a system of levees and cut-offs for the lower course of the Sacramento, and a system of dams for the upper course. It has never been pretended that the dams without the levees, or the levees without the dams, would bring about the results aimed at. But the works have only been commenced a short time, and the dams alone have been constructed. No engineer has claimed that the dams were capable by themselves of effecting a cure for the evil attacked. On the contrary, all the engineers have agreed that before any real relief can be had, the levees must be made strong enough to carry the flood-waters of the river without giving way. During the past winter no real test of the engineering plans was possible, inasmuch as they were incomplete. Such a test can not be applied until the lower river has been leveed scientifically—and this is not the work of a few months. The brush dams, however, have been so successful in holding back the heavier *débris*, that the efficiency of that kind of work can not be questioned seriously. The inundation of the Sacramento Valley does not show that the engineers made any mistake, for no steps had been taken to prevent such an inundation. The floods found no obstacles but the old and thin and insufficient levees which had been built piecemeal here and there, and as a matter of course they soon overcame those frail barriers.

The report of the Board of Equalization presented the first trustworthy data for ascertaining the results of the revenue system put in operation by the new Constitution. Its framers believed that a great deal of property had escaped taxation in the past, and they were determined to make everybody pay in the future. They imagined that this could be done by decreeing it, and so resolute and unflinching were they in the prosecution of their purpose that they refused to exempt from taxation even the shadows of property, but insisted that everything which represented property should be assessed. It happened coincidentally that there prevailed a belief that land monopoly could be put an end to by taxation, and to this end it was agreed that cultivated and uncultivated land, of the same character and quality, should be assessed at the same rate when in contiguity. The taxation of mortgages, the taxation of credits and stocks, the taxation of uncultivated land at the same rate as cultivated, was to lighten the burden of taxation on the masses by forcing the rich to bear their just share of the general load. How the new system succeeded, the State

Board of Equalization tells. For it has been shown in the report that the ways in which taxation is escaped are more numerous than ever before; that while personal property has always evaded assessment, real property has now found it possible to follow the same course; that the attempts to impose double taxation have in a large number of cases been eluded by resort to shifts which resulted in the loss of even single taxation; that the endeavor to break up land monopoly, by taxing uncultivated lands at the same rate as cultivated, has operated as a raid upon the small farmers; that owing to the exemption of growing crops from taxation, and the failure to provide for the assessment of the mature crops, this important class of personal property largely escapes taxation; that owing to the ambiguities and confusions of the new Constitution, the Board of Equalization has been prevented from equalizing assessments generally; that under the new system the State is at the mercy, first of the assessors, secondly of the tax-payers; that whether the assessments are made by the first or the second, the interests of the State appear to be equally subordinated; and it is apparent that some three or four hundred millions of property continue to pay no taxes whatever.

The board wants some provision which will render the assessors intelligent or conscientious. That they are not so at present the board thinks itself bound to conclude from the manner in which real estate has been assessed. With a unanimity and a perversity seldom equaled and never surpassed, the assessors have reversed the new constitutional rule in regard to cultivated and uncultivated land, and have in practice evidently assessed the former by the latter. But the most remarkable result of all is the graduation of the assessments in accordance with the increase in size of the farms. Everywhere the small farm has been assessed higher than the large one. In every county the value per acre of ten, twenty, and fifty-acre farms has been rated higher than that of the hundred, two-hundred, four-hundred, and six-hundred-and-forty-acre farms. The fact remains that the new rule has thus far failed, and it is to be ascertained whether the principle underlying it, or the method of appointing assessors, is most at fault. In regard to the latter, it must be admitted that thus far the plan of electing these officers has not resulted well for the State. It is notorious that property of all kinds escapes assessment.

A bill to authorize a commission to act on the subject of the adulteration of food and medicines was introduced in the House and referred to the Committee on Epidemics and Diseases. Their report presented an alarming state of affairs, of which the following statement contains some details:

The extent to which poisonous adulteration appears to be carried on in the United States is such that it would hardly be an exaggeration to say that

murder had become one of the commonest incidents of trade and manufacture. Nothing can be more horrible than the cold indifference to consequences with which manufacturers of all kinds appear to employ deadly and noxious materials. We are forced to conclude that there are in this country thousands upon thousands of men who are perfectly willing to spread death and disease broadcast over the community if in so doing they can make a little larger profit. Swindling, cheating, substituting bad and sham for good and genuine materials, are methods so usual as to be almost the rule. Adulterations enter into almost everything that is eaten, that is drunk, that is worn, that is used. And disease and death go hand in hand with adulteration everywhere.

Our children are poisoned by the dye-stuffs used upon their dresses and their stockings. The candy they eat is poisoned. The papers which we put on our walls are poisoned. The cards which we use in visiting or for social purposes are poisoned. The artificial flowers our wives and daughters employ are poisoned. The bread we eat is poisoned. The baking-powders, of which some two hundred kinds are on the market, are nearly all poisonous. The pickles which we put upon our tables are deadly. Our coffee, our tea, our sugar, our butter and cheese, all our canned goods are poisoned. Our candles, our oils, the cosmetics our women use so freely, are full of danger. The toys, the puzzles, the block maps, which we put in the hands of our children, may carry destruction with them. And as for the medicines with which disease is to be warded off, there is scarcely a genuine drug to be had anywhere.

The attention of the Legislature was so engrossed with the drainage act that little time remained for the consideration of many other important measures; consequently a final adjournment took place on March 4th, under the provisions of the Constitution. No appropriation bill was passed, nor an apportionment bill. The latter was required to conform to the returns of the recent census. So much important business remained to be considered, that the Governor, on March 24th, called an extra session of the Legislature, and appointed April 4th as the day on which it should commence. The objects of this session were:

1. To enact a general appropriation bill, which shall contain no item or items of appropriation other than such as are required to pay the salaries of the State officers, the expenses of the government, and of the institutions under the exclusive control and management of the State, for the thirty-third and thirty-fourth fiscal years.

2. To levy the rates of taxation, or, in the discretion of the Legislature, to provide that the State Board of Equalization shall fix such an *ad valorem* rate of taxation upon each one hundred dollars of taxable property of the State, which, after allowing the per cent required by law to be allowed for delinquencies in and cost of collection of taxes, shall be sufficient to raise the specific amount of revenue determined upon and directed to be raised by the Legislature for the thirty-third and thirty-fourth fiscal years.

3. To appropriate money to pay the deficiencies in appropriations for the support of the civil government of this State for the thirty-first and thirty-second fiscal years.

4. To divide the State into senatorial, assembly, and congressional districts.

5. To enact a general road law.

6. To send appointments to the Senate for their confirmation.

The extra session commenced on April 4th. In the Senate, the first business was the adop-

tion of a resolution to proceed to the election of officers for the session, by a vote of 19 to 14. The House assembled at the same time, and the Speaker chosen at the previous session took the chair. A point of order was raised, that the House was not organized. The Chair held the House to be regularly organized by its officers all being in place as elected at the opening of the regular session. A motion was made to notify the Senate of the organization of the House. A substitute was offered to this motion, that the House proceed to organize by electing certain officers. On a point of order raised, the Chair ruled the motion by way of substitute out of order. The House, if not organized, can not entertain the motion under the prevailing organization. If the House had desired to organize over, it could have done so at twelve o'clock, and, if it should have done so then, the Speaker is a usurper. However, by consent, debate would be heard on the resolution. The following proceedings then took place:

Mr. Kellogg argued that the officers do not hold over; that an extra session, so far as officers are concerned, is a new Legislature, as they are elected not for a legislative term, but for the session.

Mr. May held that the officers hold over, and thought there could be no doubt of it. This is the twenty-fourth, not the twenty-fifth Legislature. There is no precedent that the officers lose place by adjournment *sine die*, except at the end of the term. The Senate re-elected this year, but it was a new Senate, although composed of the same men as in the twenty-third Senate.

Mr. Freer held to the same views, and said the adjournment *sine die* was adjournment without day, but that did not cut off the terms when a day is given for reassembling. He read from Cushing's "Elements" in support, and additional sections, showing that the clerks hold (until removed by resolution) for the entire term for which the Legislature is elected. He opposed reorganization because it would cause delay and be revolutionary in character.

Mr. Griffiths favored reorganization. He cited the journal of the House of Louisiana, March, 1878, then convened in extra session, where the officials were retained by resolution regularly passed. Also journal of the Iowa House, January, 1862, in extra session, where, by resolution, the old officers, so far as deemed necessary, were reappointed. Also journal of the Senate of Illinois, 1867, in extra session, when by resolution certain officers were chosen. Also journal of the House of Indiana, 1872, extra session, when the House entered into a new election. He said if any doubt was left as to the matter, it might involve the laws passed, and so a reorganization had better be had. There might also be officers who can be dispensed with.

Mr. Young had at first thought adjournment *sine die* dissolved the organization, but on examining the law he had come to the settled conviction that he had been in error. Adjournment is a term somewhat confused in some minds; adjournment is not prorogation, not dissolution. The members-elect constitute the Legislature, even when not in session, and hence the power given in the Constitution to call the Legislature together after adjournment, thus recognizing the existence of the body, though not in session. He cited Cushing's "Law and Practice," section 196, in support.

The motion by way of a substitute was lost, yeas 17, nays 47; and the original motion to notify the Senate of the organization of the House was adopted, yeas 36, nays 28.

This extra session continued until May 14th. The bill for the apportionment of the State into election districts failed to pass. Many efforts were made to legislate on subjects not embraced in the proclamation of the Governor calling the session. The time of the Legislature was thus unnecessarily occupied, and some important measures failed to pass.

The report of the Railroad Commissioners was a clear statement of the difficulties encountered by them, and of the conclusions forced upon them by the study of the transportation question. They discovered, before they had been at work long, that it was impossible to regulate freights and fares in an arbitrary and sweeping way without producing far greater evils than any heretofore alleged to exist. They found also that to regulate transportation charges on any other principles than those which were already in operation, would necessitate an entire reorganization of the whole business, and would demand a knowledge and a capacity such as that business has never developed yet in any country, notwithstanding its employment of the most acute intelligences. There were but two methods of procedure open to them. They might pander to the unreasoning demand for a sweeping reduction of charges, with the certainty that in so doing they must injure the public quite as much as the railroads; or they might follow out the principles already established, and endeavor, through them, to reach results which would benefit the public without injuring the corporations. They have chosen the second of these courses.

They point out, in vindication of their decision, that no commission appointed for similar purposes has ever yet been able to arrive at any other general conclusion; that every attempt to deal violently with the problem, and to adjust it by sheer force, has failed disastrously; that every such failure has involved serious injury to the public interests; and that the unavoidable deduction from all existing experience in this direction is, that equitable and reasonable methods are the only ones which can produce beneficial results. The commissioners dwell upon the importance of understanding the principle of the maximum in transportation. They quote the maxim that high maximum means low minimum; they show that this is the secret of successful transportation; that, in fact, it is only possible to provide for the carriage of low-priced staples at minimum rates by fixing the rates on high-class merchandise correspondingly high.

The report of the Assembly Committee of the Legislature on Prisons is more of a general survey of the most important conclusions reached by experiment in all parts of the country, than a presentation of the features of the system in California. It shows that the question of the disposition and treatment of convicts is undergoing more and more radical changes, and that the old views and ways are

being discarded wherever the existing institutions render it practicable to introduce reforms in prison management. It is now recognized by all who have examined the subject that every prison ought to be at least as much a reformatory as a place of confinement; that the reformation of criminals can only be undertaken hopefully by such methods as give the convicts definite desirable objects, which they may attain by their unassisted efforts; that rewards and punishments are the necessary groundwork of any such system; that it must be applied by men specially fitted for the work, and who ought to have undergone a distinct training in penology. It is also beginning to be believed that when the sentence of the prisoner is indeterminate—that is, left to be decided by his own conduct—the prospect of reformation is much greater than under the old method, since the prisoner is thus afforded hope without restriction. The Crofton Prison system, and those which have grown out of it, all tend more and more toward reliance upon the prisoner himself, and this is evidently the scientific mode of procedure. For, if a man who has fallen into evil courses is to be reclaimed, it is clear that he must determine to help himself, and that, no matter what assistance he derives from without, all the really-useful action must come from within.

It has been found that by appealing to men's self-respect, and by treating them as though they were by no means irreclaimable, the latent ambition, the slumbering conscience, the paralyzed manhood, can be stimulated and given new life, and that the reformations wrought by these means are practically the only ones which are permanent. It is important to observe that economy goes hand-in-hand with humanity. Not only is it right to attempt the reform of the criminal, but it is to the interest of the public Treasury to do so. Crime is waste, in all its forms, and our old systems of dealing with it have been as wasteful as itself. "In fact, we have only continued to give crime a fixed abiding-place and a central rallying-point, and there can be no doubt that our jails and State prisons have made ten times more scoundrels than they ever cured. To alter all this in accordance with the new lights is not only to rid the community of its most dangerous elements, but to prevent the revival of these elements, and at the same time to make crime largely self-sustaining in the prisons."

By the new Constitution of the State the management of the State prisons is vested in a board of directors. Five persons were appointed by the Governor in 1880. Subsequently charges of a serious character were made by the public press reflecting upon the board of directors and the warden of St. Quentin's Prison; whereupon these officers requested the Governor to appoint a commission to examine into the general management of the prisons. This commission made a report in August, which contained some important statements

relative to the general management of penal institutions. It was subsequently followed by a prison-reform convention, at which important papers were read and questions discussed.

The Drainage Act of the Legislature, for the repeal of which a protracted and unsuccessful effort was made at the last session, was finally declared to be unconstitutional by the Supreme Court of the State. The principal grounds of objection to the act were that it provided for other purposes than those which are specified in the title, and that it established double taxation, and delegated unconstitutional powers to local boards. This decision was final.

The progress of the State has been of the most substantial character. Banks of issue being prohibited by her Constitution from the beginning, and even when the national currency was adopted and made legal tender by Federal law, the feeling against paper money of any kind was strong enough to maintain the gold standard all through the war, and through the era of inflation which followed it. California, consequently, did not feel the seeming prosperity attendant upon the great rise in nominal values which took place in the East as the currency depreciated, and she also escaped the inevitable reaction which came with the appreciation of the currency and the fall of prices. Yet the State did not escape the effects of the failure of some of the most productive mines and a consequent shrinkage of values. This was strikingly manifested in stock values, the highest prices of which were reached in January, 1875, and is shown by the following table:

Aggregate value of mining stocks on San Francisco board, January, 1875.....	\$232,305,404
Aggregate value of mining stocks on San Francisco board, July, 1881.....	17,902,700
Shrinkage.....	\$264,402,704
Highest value consolidated Virginia, January, 1875.....	75,600,000
Value consolidated Virginia, July, 1881.....	945,000
Shrinkage.....	\$74,655,000
Highest value California, January, 1875.....	84,240,000
Value of California, July, 1881.....	351,000
Shrinkage.....	\$83,889,000
Highest value Sierra Nevada, September, 1873..	27,000,000
Value of Sierra Nevada, July, 1881.....	825,000
Shrinkage.....	\$26,175,000

It should be remembered that the famous Comstock mine did not reach its maximum until 1877, that in twenty years it yielded three hundred million dollars, and that it dropped nearly thirty-three millions in three years.

The tendency of gold-mining to assume a stable character is shown by the annual steadiness of the crop. The great improvements which have taken place in mining machinery and methods now enable the working with profit of low-grade ores, of which there are regular and enormous deposits. How mining of this kind is developing is shown by the fact that the foundries of San Francisco during the year have turned out machinery for over a thousand stamps. The injunctions which have

this year suspended the operations of some of the principal hydraulic mines of California may lessen by some millions the gold-harvest; but the movement to restrain the hydraulic miners from washing their tailings into the valleys, where they fill up the beds of the streams and destroy agricultural lands, is in itself an evidence of a growing conservatism of feeling—of the increasing disposition to look upon California as a country in which permanent homes are to be made. In the agricultural capabilities of her soil lie the possibilities of her greatest wealth. The wheat-crop of last year, after supplying all home demands, including that of distilling, gave a surplus for export of no less than 1,400,000 tons—a surplus worth, even at the low rates that prevailed on account of the scarcity of tonnage, \$37,500,000, or more than twice the whole bullion product of the State. Or, in other words, the wheat-crop of California for 1880 was worth more than half as much as the bullion product of the whole United States.

Among the most valuable of her industries in the future will be those of the vineyard and the orchard. The natural adaptation of the soil and the climate has been proved beyond a question. The grape-growers of the State can now sell their grapes with as much certainty as the farmer his wheat. There is now sent to the Atlantic coast more wine than is imported from France, and it is estimated that the wine-crop of last year yielded to the growers nearly \$3,500,000. The curing and packing of raisins has only recently commenced, but it is already an assured industry.

In San Francisco, in Alameda, and San José are fruit-canning establishments which, during the busy season, employ over a thousand hands apiece, and all over the State, wherever there is an important fruit district, this industry is rapidly developing. Orchards of the finer varieties of peaches, plums, pears, nectarines, etc., are being set out in all parts of the State, and in the southern section the culture of semi-tropical fruit is attaining large dimensions.

The question arising under the new Constitution relative to the taxation of certificates of stock by assessors of taxes was also decided by the Supreme Court. The opinion was delivered by Justice Ross in the case of *Burke vs. the Assessor*. He held that the Constitution of the State does not require or authorize double taxation. On the contrary, its language clearly prohibits it. The stock of any corporation consists of its franchise and such other property as the corporation may own. When, therefore, all of the property of the corporation is assessed—its franchise and all of its other property of every character—then all of the stock of the corporation is assessed, and the mandate of the Constitution is complied with. This property is held by the corporation in trust for stockholders, who are beneficial owners of it in certain proportions called shares, and which are usually evidenced by certificates of stock.

The share of each stockholder is undoubtedly property, but it is an interest in the very property held by the corporation, nothing more. When the property of a corporation is assessed to it, and the tax thereon paid, who but the stockholders pay it? It is true that it is paid from the treasury of the corporation before the money therein is divided, but it is substantially the same thing as if paid from the pockets of the individual stockholders.

At the presidential election in 1880, the official count of the vote was as follows:

Total vote.....	160,795
Hancock, Democrat.....	80,417
Garfield, Republican.....	80,378
Hancock's majority.....	35

The vote for members of Congress was as follows:

District.		
I.	Rosecrans, Democrat.....	21,005
	Davis, Republican.....	19,496
	May, Greenback.....	653
II.	Glascock, Democrat.....	18,211
	Page, Republican.....	21,458
III.	Berry, Democrat.....	14,437
	Knight, Republican.....	11,082
IV.	Leach, Democrat.....	17,263
	Pacheco, Republican.....	17,328

The Legislature was divided as follows:

PARTIES.	Senate.	House.
Republican.....	25	41
Democrat.....	15	39
Total.....	40	80

The compilation of the returns of the census are so incomplete as to add nothing to the aggregate statistics of population in the previous volume.

CANAL, INTEROCEANIC. (See PANAMA CANAL.)

CAPE COLONY AND BRITISH SOUTH AFRICA. The present Constitution of the Cape Colony vests the executive power in the Governor and an Executive Council, composed of certain office-holders appointed by the Crown. The legislative power rests with a Legislative Council of twenty-one members, ten of whom are elected for ten years, and eleven for five years, representing the country districts and towns of the colony. The qualification for members of the Council is possession of immovable property of £2,000, or movable property worth £4,000. Members of both Houses are elected by the same voters, who are qualified by possession of property, or receipt of salary or wages, ranging between twenty-five and fifty pounds sterling per annum. There were 45,825 registered electors in 1878. The Governor is, by virtue of his office, commander-in-chief of the forces within the colony. He has a salary of £5,000 as Governor, besides £1,000 as "her Majesty's High Commissioner," and an additional £300 as "allowance for country residence." The administration is carried on under the Governor, by a ministry of five members, called the Colonial Secretary, the Attorney-General, the

Treasurer-General, the Commissioner of Crown Lands and Public Works, and the Secretary of Native Affairs.

The area and population of the several provinces were as follows at the close of 1880:

TERRITORIES.	Square kilometres.	Population.
Cape Colony.....	517,849	780,757 (1880)
Basutoland.....	21,794	128,176 (1875)
Griqualand West.....	45,300	48,123 (1877)
Transkei district (Caffraria).....	40,334	409,944 (1878)
Natal.....	48,560	364,338 (1880)
Total.....	963,413	1,633,338

The distribution of the population, according to sex, in Cape Colony, inclusive of British Caffraria and Basutoland, and in Natal, was as follows in 1878:

TERRITORIES.	Male.	Female.	Total.
Cape Colony.....	430,529	418,631	849,160
Natal.....	176,766	184,821	361,587

The financial and commercial statistics for 1879 for Cape Colony and Natal were as follows:

FINANCES.	Cape Colony.	Natal.
Receipts.....	£5,661,000	£473,000
Expenditures.....	3,995,000*	491,000
Debt.....	10,017,000	1,632,000
Imports.....	7,664,000	2,176,000
Exports.....	4,068,000	584,000
Movement of shipping (in tons),...	1,582,000	412,000

At the close of 1878, 663 miles of railway were in operation in Cape Colony.

The Cape settlements are bound to Great Britain by looser ties of interest and sentiment than any of the other dependencies of the empire. The bond has not been strengthened by the cares and difficulties which they have given to every English administration, and the incessant loss of British blood and treasure in unpopular Caffre wars which the connection has entailed since the first annexation in 1812. More than two thirds of the Queen's subjects in South Africa are aliens in blood, language, and customs, while the commercial and military advantages of the connection bear no proportion to the sacrifices it has cost. For these reasons the home Government and the British public have long desired to see the plan of autonomous government and self-dependence realized in these troublesome dependencies. The complicated relations of the British Government with the Anglo-Saxon settlers, the Afrikaners, and the native populations, which under the management of ignorant military commanders and crown officials involved the commission of the numberless wrongs and cruelties of the past, still stand in the way of England's withdrawing her aid and authority from the Cape. The fixed idea of an administrative theorist, adopted as a practical policy for the consummation of this object, was one of the chief causes which led to the last three

years which have afflicted these ill-fated communities. Lord Carnarvon, after the happy effects of the confederation act in Canada became apparent, conceived the idea of uniting all the European settlements of South Africa under a similar confederate government, to which the virtual sovereignty should be transferred. This scheme was adopted as the traditional policy in Downing Street, and was enthusiastically pursued by the Queen's representatives at the Cape. The Transvaal was annexed by Sir Theophilus Shepstone in April, 1877, in a way which the people of Great Britain have only come to understand since the rebellion of the Boers. The usurpation was excused on the pretext that the people of the republic were misgoverned by their own authorities to such an extent that they hailed British rule with thanksgiving. Zoolooland was then invaded, with scarcely any pretext, for the object of rendering the Boers content with the annexation, and to remove a possible danger to the future confederation, and induce Cape Colony to join it by crushing the only organized and formidable native power in this part of Africa. This disastrous war, which cost £5,000,000 and thinned the ranks of British regiments, excited a strong repugnance in Great Britain to any further military operations in South Africa, although the entire responsibility for the Zooloo campaign lies at the door of the Imperial Government. The people of Cape Colony, who had possessed responsible government since 1872, were given to understand that for the future they must undertake their own defenses. Thereupon the colonial ministry under Mr. Sprigg instituted a course of arbitrary policy entirely in the spirit of Sir Bartle Frere's Zooloo stroke.

The Basutos of Basutoland, a laborious, pastoral, and agricultural people, who were becoming rapidly civilized and Christianized, populous and wealthy, had the custom of buying every man a gun. They never took their fire-arms from the wall except on one or two occasions, when they did valiant service for the Queen, affording conspicuous assistance in the late Zooloo war. With frightful rashness, a disarmament act was carried through the Legislature, and the command went forth that the Basutos should deliver up their guns. The French Protestant missionaries who lived among them protested against the injustice of the demand. Sir Garnet Wolseley warned the home Government of its impolicy and danger. The Basutos regarded these weapons as a badge of manhood and dignity. When diamonds were discovered in West Griqualand, the Basutos were the first and principal laborers; and each took home as his richest reward a gun which he had purchased at an exorbitant price. The command to give up the weapons which they had been encouraged to acquire, was regarded by every one as an unmerited disgrace. Letsie, the principal chief, and his people, who remained loyal throughout

* For the first six months of the year only.

the war, remonstrated in the following pathetic terms: "Hitherto we have been known first as the faithful friends and allies of the Queen, and then as her faithful subjects. Up to the Zambesi and down to Cape Town we are known as such—we are named the children of the Queen. If we are disarmed, will not other tribes say that we have offended against the Government?"

The political position of the Basutos was anomalous. When they swore allegiance to the crown in 1869, it was with the stipulation that they should not form part of Cape Colony, and they were not, until 1879, when the act conferring autonomy upon the colony heedlessly turned them over to the tender mercies of the Cape Government. The Basutos were a branch of the Bechuana tribe, one of the most superior and intelligent races of the Bantu family. After the formation of the tribe in Basutoland they became involved in constant disputes with the Orange Free State Boers on one side and the Zooloos on the other, and, when these growing states menaced them with extinction, they appealed to the British authorities for protection, and were accepted as British subjects. Their subsequent history is one of peaceful prosperity and advancement unexampled among African races. They grew rich in cattle, horses, and grain; built houses, schools, and churches; and were tenderly loyal until the offensive orders to deliver up their lawfully acquired weapons. Letsie and his tribe complied, but their arms were intercepted and seized before their delivery by the indignant majority. The invasion of Basutoland by the Cape militia and the earlier stages of the war of resistance are recounted in the "Annual Cyclopædia" for 1880.

The Basutos made skirmishing assaults in the beginning of January upon the towns of Maseru and Leribe and the picket-line of Colonel Carrington's advancing column. In a vigorous attack on the 10th the Burgher Guards gave way, and the field was held only by a line of dismounted cavalry. The burghers were suspected of being actuated by sympathy for the Transvaal rebels, and a large number of them were sentenced to imprisonment. The Basutos were becoming weary of fighting and suffered for want of food. They sued for peace, and an armistice of seven days was granted on the 18th for them to consider the Governor's answer. They did not accept the proposals through distrust, and desired to settle the terms with the imperial authorities. Active hostilities were not resumed again, with the exception of a few fitful attacks. The imperial authorities refused to intervene unless the Colonial Government should resign the control of Basutoland entirely. This a considerable party in the colony desired to do. Sir Hercules Robinson finally, at the request of the Basuto chiefs and by desire of the Cape ministry, arranged the conditions for the cessation of the ineffectual struggle. The Basutos were

to pay a fine of 5,000 cattle to the Cape Government, to restore property taken from loyal natives, and to pay £1 annual license fee for the privilege of keeping a gun, and should enjoy entire amnesty and suffer no confiscation of territory. It was found impossible to thoroughly enforce the provisions of the agreement.

The outbreak of the Transvaal rebellion is noticed in the "Annual Cyclopædia" for 1880. The Boers had reasons to dread the aggressions of the British. Their ancestors were driven by wrongs and indignities to abandon their homes in the old colony and go into the unexplored wilderness. The Republic of Natalia which they founded no sooner began to prosper than it was invaded and conquered by British troops. The Boers again abandoned their fertile fields for the bleak desert. They founded the independent South African republics. In 1848 the land between the Vaal and Orange Rivers was annexed by Great Britain, and then the land between the upper Caledon and the Vaal. This act drove them to rebel, and the British chased them into the unknown wilderness beyond the Vaal. In 1852 a convention was signed, guaranteeing to the Boers north of the Vaal River "the right to manage their own affairs, and to govern themselves according to their own laws." When the Transvaal was annexed after twenty-five years of tranquillity, the population had increased to between thirty and forty thousand whites, and the revenue to about £70,000. The annexation met the clamorous approval of a class of British traders and land speculators who had flocked into the Transvaal after the gold discoveries, adventurers who sought pecuniary profit in the disturbance of rights which would ensue. The prospect that President Burgers's projected railroad to Delagoa Bay would deprive Durban of the Transvaal trade was a strong secret motive with English colonists for demanding the annexation. A financial and political crisis of the Transvaal Government furnished the occasion for the usurpation. The fear that financial aid would be furnished for Burgers's project of establishing a Transvaal port, which might be followed by a German protectorate, was one of the state reasons for the step. The Boers themselves were undoubtedly almost unanimously opposed. The formal protest of President Burgers at the time, the two visits of the delegates, Joubert and Kruger, to England, and the mass-meetings of remonstrance, should have left no doubt of the rooted aversion of the Boers to British dominion.

The arrogance and unfitness of the administrator set over the Transvaal, Sir Owen Lanyon, and the other British officials, was one of the proximate causes of the outbreak. During the agitation which lasted throughout the three years of British administration, and during and at the close of their desperate rebellion, the Boer leaders and representative men iterated and reiterated the conditions under which a

connection with the British Empire would be endurable to the Boer people, conditions which it required the deplorable war to make clear to the British Parliament and people, and which were at last freely accorded before a British force had set foot across the Transvaal boundary, though defeat following defeat had brought the blush of shame into many Englishmen's faces and stirred thoughts of revenge in their hearts, and although enough British troops had just landed in Natal to speedily exterminate the valiant descendants of Huguenot refugees and stalwart Dutch pioneers.

One of the strongest reasons for the annexation had been the frequent difficulties of the Boers with the native tribes. The principal danger had been averted by the extinction of the Zooloo power, accompanied by the reversal of the British commissioners' decision on the chief matter in dispute, their award to Cetewayo of the land which he had formally ceded to the Transvaal, and which had already been settled by Transvaal farmers. The cession of Keate's award, in which diamonds had been discovered, to natives by a British arbitrator, probably preparatory to engrossing it in the British dominion, as had been done with West Griqualand, was another instance of the obliquity of British arbitrations. Nevertheless the Boers were content from the beginning to refer boundary questions and disputes with the aborigines to English adjudication, and much more so after the punishment of their old enemies the Zooloos. If it had not been for the wars with Cetewayo and Secocoeni, the Boers would have struck earlier for independence.

In the middle of December, 1880, the republican flag was raised in Heidelberg, a Volksraad was convened, and the South African Republic proclaimed. The Boer Government was originally composed of Kruger as President; Joubert, Commandant-General; Jorissen, Attorney-General; and Bok, acting State Secretary. Pretorius was afterward associated with Kruger and Joubert in the supreme direction. A proclamation of the Boer Government set forth their desire to form a confederacy with the other colonies and states; their willingness to receive a British resident diplomatic agent to represent the interests of British subjects; and also to submit to arbitration their disputes over boundaries with native tribes. Besides the quarrel concerning a small tract in the southeast, which had led to the Zooloo war, there was the standing difficulty about the large and fertile region in the southwest corner of the Transvaal, called the Keate award, which the British referee had awarded unconditionally to native claimants, and the vast region of the northeast from which the Boer settlers had been expelled by native tribes who had been for a long time in possession of the entire country. The titles to lands in this reconquered territory had been bought up by speculators.

The first engagement of the war was the

surprise and surrender of a detachment under Lieutenant-Colonel Anstruther, at Bronker's Spruit, while marching from Middleburg to Pretoria, December 20, 1880. The rebellion of the Boers, with the triumvirate, Paul Kruger, Pretorius, and Joubert, at the head, was in full operation at the beginning of January, 1881. British garrisons were beleagnered in Pretoria and Potchefstroom. The Boers secured Natal as far as Newanka, and took possession of the Barkly district of Griqualand West. Sir George Colley was mustering his forces at Newcastle, with about fifteen hundred within call; while re-enforcements from India and Gibraltar were on the sea. General Colley advanced his column slowly toward Pretoria. The means of transport were nearly all in the possession of the Boers and their sympathizers. On the 28th of January he attempted to force the pass of the Drakensberg at Laing's Neck, which the Boers were massed to defend. The republicans displayed steadiness and courage of the highest order, and repulsed the rash British commander with severe losses. The Fifty-eighth Regiment, which stormed the strong intrenched position of the Boers, was driven back with terrible slaughter. Many of the officers were picked off by sharpshooters. Sir George Colley was now himself hemmed in on all sides. In an attempt to restore communications with Newcastle he was attacked by the Boers near the crossing of the Ingogo, February 8th, and lost one hundred and fifty men and six officers.

Re-enforcements landed at Durban at this juncture, when every British force in Africa was surrounded by the Boers, of whom 10,000 to 12,000 were under arms. They withdrew beyond the Drakensberg and perfected the fortifications at Laing's Neck as Sir Evelyn Wood brought up re-enforcements to Newcastle. Proposals for a treaty had already come from Kruger, and had been forwarded to England, when General Colley proceeded to occupy with about 700 men the height of the Spitzkop on Majuba Mountain, which commanded the Boers' position. On the following day, February 27th, the Boers carried the eminence by storm, with the most heroic exertions. The British commander, Sir George Pomeroy Colley, who was also the High Commissioner for Southeast Africa, was slain with 82 others, and 184 were disabled or captured. The repeated successes which the Dutch farmers gained over the British regulars were won in nearly every instance with astonishingly small numbers, although the *morale* of the British troops was not particularly defective. They were due to their desperate and religious devotion to the cause in which they were engaged, not less than to their splendid marksmanship with the rifle, and their alert and intelligent tactics. Sir Frederick Roberts was now appointed commander-in-chief, and about 15,000 troops were sent to the field of action from all parts of the empire. Before his arrival Sir Evelyn Wood, acting under instruc-

tions from home, and Commandant-General Joubert, had arranged an armistice, procured through the intermediation of President Brand, of the Orange River Republic, to allow time for Kruger and the Boer authorities to consider terms of peace which the Imperial Government offered. Under the terms of the armistice the English were permitted to provision their beleaguered garrisons in Potchefstroom, Pretoria, Wakkerstroom, and Standerton with a week's rations. Before the supply-train reached Potchefstroom, the garrison surrendered, March 21st, giving up their guns and departing on parole for Natal. The withholding from the besieged force knowledge of the approach of succor was adjudged a violation of the armistice, and it was agreed to allow the fort to be reoccupied, to restore the *status quo ante*.

The strongest sympathy with the Boers and indignation at the course of Great Britain prevailed among the entire Dutch population of South Africa. It was this state of feeling which was advanced as the reason for taking vengeance upon the insurgents. The apprehensions caused by the known tension among the old families were augmented by a manifesto of Kruger, which said that, whether the Boers were now successful or not, the struggle would lead to the redemption of the colonies from the British yoke, and independence, like that achieved by the American colonies, when "Africa will be for the Afrikaner from the Zambesi to Martin's Bay." The people of Holland and Belgium manifested publicly their sense of England's injustice, and a large section of the British public expressed the same sentiment. Public men in Germany, in France, and in other Continental countries set their names to memorials pleading for the bestowal of independence upon the Transvaal.

The negotiations with the Boers were concluded by their acceptance of the terms of peace, March 21st, subject to their final agreement in the decisions of a royal commission settling the details of boundaries and questions of the rights of natives. The commission was to consist of Sir Hercules Robinson, Governor of Cape Colony and High Commissioner for South Africa, President, and Sir Henry De Villiers, Chief-Justice of the Cape, and Sir Evelyn Wood, associate members. The Boers agreed to withdraw from Laing's Neck and disperse to their homes. The English garrisons should remain as they were pending the final settlement, but no troops or munitions of war were to be sent into the Transvaal. The main principles of the treaty were that the Boers should enjoy complete independence in making and administering their own laws; but the right to regulate and superintend their relations with the native population, which numbers nearly 700,000, the adjustment of frontier questions with the resident and neighboring tribes, and the control of foreign relations, were reserved by the Imperial Government,

represented by the High Commissioner in Cape Town, and in the Transvaal by a resident imperial agent. This peculiar form of a protectorate was defined under the new term of the *suzerainty* of the Queen. The determination of the rights and claims of the natives and of provisions for the protection of native interests was the task imposed upon the commissioners, who immediately commenced their labors. They were also empowered by the terms of the settlement to decide the question of the severance from the Transvaal of portions of the territory in the east and northeast settled by natives, and thus separate the Zooloo and Swazi districts from the Transvaal. The last proposition was loudly condemned by the Boer people. After the conclusion of this preliminary settlement, the Boers departed for their farms. The British commander, General Wood, did not decrease his armaments, but prepared vigorously for the case of a renewal of the war.

After many difficulties and compromises a convention was settled between the Boer authorities and the commissioners on the 8th of August. The Transvaal Government undertook the debt of £425,893, payable in twenty-seven years, at 4½ per cent interest, on account of the liabilities which the British Government had assumed at the annexation, and the expenses of Secocoeni's war. The Boers and the British each agreed to reimburse sufferers of damages through the military operations. The convention was ratified by the Volksraad in October.

The Cape Parliament met March 25th. The Premier of Cape Colony, Gordon Sprigg, the author of the Basuto war, was nearly removed from office in April by a vote of censure, for raising, on his own responsibility, a loan of £1,250,000, for the prosecution of that unfortunate military essay, and for the other war expenditures of the colony. The war itself was not condemned by either the West or the East colonists, the Afrikaner or the English section of the community. Mr. Sprigg represented more especially the English element, as opposed to the Dutch, and the aggressive spirit of the former Imperial Government. He had been called upon by Sir Bartle Frere three years before to succeed Molteno, who had been arbitrarily dismissed while still backed by a parliamentary majority. Upon a subsequent renewal of Mr. Scanlan's motion, Mr. Sprigg resigned. A new ministry was formed, composed of Mr. Molteno, the Prime Minister whom Sir Bartle Frere had removed, Colonial Secretary; Mr. Hutton, Treasurer-General; Mr. Scanlan, Attorney-General and Premier; Mr. Merriman, Commissioner of Crown Lands and Public Works; Mr. Sauer, Secretary for Native Affairs; Mr. Hoffmeyer, without a portfolio.

In the budget of the Cape Treasurer the revenue of the colony for 1881 is estimated at £2,968,210, and the expenditure at £2,852,083.

The revenue for the year concluded was £2, 800,000, and the expenditure £2,633,783.

The Assembly resolved that an amendment to the Constitution be adopted, to allow the option of addressing Parliament in the Dutch language. The further extension of railroads was decided upon, including a line to West Griqualand. Harbor improvements were also authorized. The railroad construction authorized involves expenditures amounting to five millions sterling.

CARLYLE, THOMAS, an eloquent British author and leader of contemporary thought, died at his house in Chelsea, February 5th. He was the eldest of a family of eight children. His father, James Carlyle, the son of a small Scotch tenant farmer, was a working stonemason at the time of the author's birth, and afterward became a prosperous farmer; he was a man of rectitude and energy, possessing mental traits and endowments similar to those which, developed in literary form, gave his son the mighty influence he has exercised over the English mind. All his sons became men of character and ability. Thomas Carlyle was born at Ecclefechan, a village near Dumfries, December 4, 1795. He learned to read and write in the parish school of Hoddam, and was taught the elements of Latin by the minister. In his ninth year he passed into the burgh school at Annan. Before his fourteenth birthday he entered the University of Edinburgh. He made few friends, and was little interested in the professors and their teachings, although they numbered among them men of European reputation, who were able to inspire an unusual zest in the generality of students for the literary and philosophical studies of the classroom. Carlyle devoted himself to reading, exploring with avidity the college library and the various circulating libraries of the city. These independent and desultory studies were so confining as to impair his health. Under Sir John Leslie, whom alone among the professors he made his friend, he obtained a knowledge of mathematics rare among youths of his years. He was destined for the ministry by his father, but after passing through the four years' curriculum of arts he concluded that he could not conscientiously follow that profession. "Now that I had gained man's estate," he said, recounting the spiritual crisis he passed through in deciding the question, "I was not sure that I believed the doctrines of my father's kirk; and it was needful I should now settle it. And so I entered my chamber and closed the door, and around me there came a trooping throng of phantasms dire from the abyssal depths of nethermost perdition; doubt, fear, unbelief, mockery, and scoffing were there; and I wrestled with them in agony of spirit." He embraced the calling of a teacher, and first taught mathematics in the school he had lately attended in Annan; and after remaining there two years went to Kirkealdy to teach mathematics and the classics in the burgh

school, wishing to be near his friend Edward Irving, who had a private school in the same town. After two more years spent in this uncongenial pursuit, in which he acquired the name of a stern pedagogue, Carlyle went up to Edinburgh to embark in the profession of literature. His first employment was in the compilation of Brewster's "Edinburgh Encyclopædia." At the instance of Sir David Brewster he translated Legendre's "Geometry and Trigonometry," prefacing it with an essay on proportion. At this time he made the acquaintance of the German language and its literature, the treasures of which were first unlocked to the English-reading public by his sympathetic translations and criticisms. His brother, Dr. John Carlyle, who afterward acquired a place in literature by his translation of Dante, was at that time studying in Germany. Carlyle contributed to the "New Edinburgh Review" an article on "Faust," the first product of his German studies. He was for several years tutor to the gifted Charles Buller. He joined the staff of brilliant writers engaged upon the "London Magazine," to which he contributed in 1823 the first part of his "Life of Schiller," and in the following year a translation of "Wilhelm Meister's Lehrjahre." Goethe's novel and the style of the translation were sharply assailed by the critics, led by De Quincey, one of the few Englishmen who at that time knew anything about the master-poet of Germany. Undeterred by the contempt with which that masterpiece of German literature had been received, Carlyle in 1827 published several volumes of "German Romance," containing translations of short pieces of fiction by the principal writers of the romantic school.

In 1827 Carlyle married Jane Welsh, daughter of Dr. Welsh, of Haddington, who was a descendant of John Knox. Carlyle's wife owned a farm among the Dumfriesshire hills, whither he betook himself and lived for six years, wrapped in his literary work, with his wife for his only companion. Mrs. Carlyle was in character and intellect hardly inferior to her husband. In the seclusion of Craigenputtock farm Carlyle wrote the essays on Burns, Goethe, and Johnson, Heyne, Novalis, Voltaire, and Diderot. "Sartor Resartus" was written at this period, but not published till years afterward. The young author, by the independent and self-prompted work which he was enabled to accomplish in his mountain retreat, gained a great name, and was occasionally sought out by visitors from afar who had drawn light from his philosophy and hailed him as their teacher. Emerson visited him at Craigenputtock, and listened with wonder to the brilliant and original talk which streamed from the lips of his host. Carlyle wrote for the "Edinburgh Review," but was frequently offended at the ruthless liberties that Jeffrey took with his manuscript, which was pruned and patched by that pedantic editor into conformity with his finical canons of taste. With Napier as editor, Carlyle's

relations with the review were pleasanter. Jeffrey in a letter to his successor warns him that Carlyle would not be a proper contributor—"that is," he explained, "if you do not take the liberties and pains with him that I did, by striking out freely, and writing in occasionally. The misfortune is that he is very obstinate and, I am afraid, very conceited." Carlyle composed "*Sartor Resartus*" in 1831. This remarkable work of philosophical satire and profound reflection went begging for a publisher, and first appeared in a magazine, seven years after it was written. In order to be near libraries and obtain the advantages of social intercourse necessary to an author of his rank, he left his rustic home for London in 1834, settling in the house in Cheyne Row which he inhabited till the day of his death. The productivity of his genius in the first few years of his metropolitan residence was extraordinary. He labored incessantly and with intense application. He worked with the pen from ten to three every day, and, after an intermission for exercise, visiting, and letter-writing, studied all the evening. He had to wait long for recognition in London. The reviewers ridiculed the eccentricities, the roughness, the strange choice and collocations of words, the incomprehensible Germanicisms, and all the peculiarities of his style. The publishers were not eager to print his productions. Even the "*French Revolution*," the most brilliant and impressive, and the most characteristic product of his genius, did not immediately find a publisher. The occasion of the removal of Thomas Carlyle and his wife to Chelsea was the publication of "*Sartor Resartus*." Only in America did this work meet with unhesitating admiration. Thomas and Mrs. Carlyle found cordial and appreciative friends among the literary profession, and a knot of eminent writers delighted to gather in their small house in the suburb. Between 1837 and 1840 Carlyle read some courses of lectures in London on "*General Literature*," "*The History of Literature*," "*The Revolutions of Modern Europe*," and "*Heroes and Hero-Worship*," which wrought a profound impression in intellectual society. "*The French Revolution*," the first work which bore Carlyle's name on the title-page, was published in 1837. The first volume he had been obliged to rewrite. He had lent the manuscript to John Stuart Mill, who had confided it to Mrs. Taylor, whose servant, it is supposed, took it to kindle the fire.

In 1839 Carlyle commenced to turn his attention to the wants and hardships of the lower classes. Between that year and 1850 he published "*Chartism*," "*Past and Present*," and "*Latter-Day Pamphlets*," diatribes filled with bitter scorn, directed indiscriminately against the indifferentism of the political economists, and against the doctrine that remedial legislation or the extension of popular rights can be of use in the work of social reformation. In 1845 was issued "*Oliver Cromwell's Let-*

ters and Speeches," a successful book. The Great Protector was only known to the English people before the publication of Carlyle's memoir in the image of the mingled hypocrite and fanatic, lunatic, scoundrel, and buffoon, pictured by his detractors. In 1851 Carlyle published a biography of his friend John Sterling. Between 1858 and 1865 came out Carlyle's "*Frederick the Great*," the product of long labor and critical research. In its preparation he resided some time in Germany, and visited the scenes of Frederick's battles. This was Carlyle's last great work. During the American civil war he gave out, in "*Ilias in Nuce*," his morose reflections on the destiny of the republic and the value of the institution of slavery. In 1865 Carlyle was elected rector of Edinburgh University. In the following year, while he was absent, delivering to the students a lecture on the choice of books, his wife died. The loss of his companion was to him a source of poignant grief; he wrote that "the light of his life had quite gone out." In 1867 the discussion of the extension of the suffrage brought out "*Shooting Niagara, and After*," a dismal vaticination of the terrible consequences of democratic freedom. In 1870 he published, in the London "*Times*," reflections on the Franco-German War, expressing approbation of the prospective annexation to Germany of Alsace and Lorraine.

Carlyle exerted as far-reaching an influence upon the men of his time through his conversation as through his published writings. In speaking, he was less apt to fall into the grotesque involutions of phrase and idiosyncrasies of language which mar his writings. These faults of style grew upon him, and render his later works difficult and disagreeable to read. His letters were free from these vices. In early life, he wrote rapidly, and spent little pains on revision; but in later years he corrected, rewrote, erased, and interpolated with excessive care.

Carlyle was ailing several years before his death. He left some autobiographical materials, which were committed to James Anthony Froude, as his literary executor, and were published by him without excision. The pungent and sometimes unkind reflections on friends and associates of Carlyle caused much indignation against the editor and no little sorrow among the friends of the dead philosopher.

Thomas Carlyle propounded a social philosophy, which did not fall in with the spirit of the age, but which acted as a corrective to the current doctrines. As a critic, he disclosed real flaws in the habit of thinking that has grown up, which regards the collective opinion of the commonalty, which is only derivative, and must often be outstripped by the authors and actors of history, as the prime impulse in social progress. He exalted the value of the individual will, and delighted in the exhibitions of energy and power by the rulers of modern times, with too little discrimination of their

motives or of the effects of their acts on civilization.

CARPENTER, MATTHEW H., born in Moretown, Vermont, in 1824; died in Washington, February 24, 1881. In 1843 he entered the Military Academy at West Point, where he remained two years. He then went to Boston and studied law with Rufus Choate, and was admitted to the bar. In 1848 he removed to Wisconsin, and entered the practice of his profession, in which he soon became eminent for his legal ability and brilliant talent, which won him high reputation in the Supreme Court of the United States even before his entrance into public life. Not until after the war did Mr. Carpenter take an active part in politics. Before and during the war he was a Democrat; but, when the leading men took sides on that issue, he became a Union man. When, at the close of the contest, he espoused Republicanism, his generally recognized ability commanded for him the active support of that party in Wisconsin, and in 1869 he was elected to the United States Senate in place of Senator Doolittle.

Mr. Carpenter served in the Senate from May 4, 1869, until March 3, 1875, and occasionally showed great power as a lawyer and debater, but lacked those qualities necessary to make a public man understand public sentiment. He belonged to that class of brilliant politicians who so strongly influenced the proceedings of Congress from 1869 to 1875, and of which General Butler was a representative man. About this time Mr. Carpenter was the victim of malicious slanders, but he was able to prove to general satisfaction that they were groundless. In 1874 Wisconsin Republicans, like the party elsewhere, were suffering from the injudicious action of Congress upon the salary bill and like matters, and the feeling against the railroad corporations was also a distracting element. The party had, however, a majority in the Legislature, but a considerable portion of it was made up of Independents. Mr. Carpenter received the caucus nomination for Senator, but the independent minority refused to vote for him. After a protracted struggle, the Democrats joined the independent Republicans and elected Mr. Cameron. Mr. Carpenter accepted his defeat, vouched for the Republicanism of his successor, and retired to his extensive law practice, taking little interest in political affairs. During the contest over the presidential succession of 1876-'77, Mr. Carpenter appeared before the Electoral Commission as one of the Tilden counsel, and made an argument in his behalf. The Legislature of Wisconsin, which met in January, 1879, was called upon to choose a successor to Senator Howe. The contest between Messrs. Howe, Keyes, and others was a bitter one, and finally Mr. Carpenter was presented as a compromise candidate. He had been approved on financial questions, and his superior talents rose paramount over all the opposition formerly urged.

His election gave general satisfaction to the Republicans. He took his seat March 4, 1879. Among several speeches which he addressed to the Senate, all remarkable for their ability, that against the Fitz John Porter bill is regarded as his finest effort. His course in politics during his last term in office was much more independent than previously, and as a lawyer he had few equals in Washington, where most of his later years were spent.

CENSUS OF THE UNITED STATES.
(See UNITED STATES CENSUS.)

CHEMISTRY. The president of the Chemical Section of the British Association, Professor A. W. Williamson, made the growth of the atomic theory during the last fifty years the subject of his opening address at the last year's meeting, maintaining that its general validity had been confirmed by the tests of experimental application to which it had been rigorously subjected. The binary or dualistic theory of combination, and the doctrine of multiple proportions which were formerly connected with it, and which seemed to be satisfactorily applicable to the simpler compounds and the salts, broke down when chemists came to deal with double compounds which were not saline in character, and with the carbon compounds; and it became necessary to find other methods of accounting for the phenomena of chemical combinations. As the investigations were continued with reference to this object, the idea of substitution came to be more and more used in the place of that of mere additive combination. Elementary chemical reactions which, according to the binary theory, were supposed to consist of dualistic processes, involving sometimes the assumption of forces (like predisposing affinity) of a purely metaphysical character, were explained as consisting of atomic displacements, or interchanges of a kind well known to be of common occurrence. Many products of the combination of known molecules have been found to be formed by processes of double decomposition, so that each molecule of such products is built up partly of atoms derived from one of the materials, partly of atoms from the other. In the organic compounds, many of the molecules having a very complex structure have been found to undergo in their reactions very simple changes, of the same kind as those which mineral compounds undergo. Families of organic compounds have been discovered whose members are connected by close analogy of constitution and properties, each of them forming a series, each term of which is a compound whose molecule contains one atom of carbon and two atoms of hydrogen more than the previous one. Our knowledge of molecules has undergone a most remarkable and important extension by the discovery that various elements in what we are accustomed to consider the free state, really consist of molecules containing like atoms combined with one another. Those marvelous varieties of matter called isomeric compounds have found

their natural explanation in differences of the respective arrangement of like atoms. The term "equivalent" was introduced to indicate the proportional weights of analogous substances which were found to be of equal value in their chemical effects. Tables of the equivalent weights of acids were made, representing the proportions of the several substances that were found to be of equal value in neutralizing a fixed quantity of a certain base; and similar tables were made for the bases, as well as for the elements themselves. But little attention was paid under the dualistic system to the essential difference between atomic weights and equivalent weights; but under the later developments of the theory of the functions of atoms, it has become necessary to study the relation of equivalence between elementary atoms, instead of studying them from the point of view of elements divisible in any proportion. From this has sprung the division of the elements into classes consisting respectively of equivalent atoms known as monads, dyads, triads, tetrads, etc., the character of which is well represented in the four typical compounds, Cl H , OH_2 , NH_3 , CH_4 , where chlorine appears as a monad, oxygen as a dyad, nitrogen as a triad, and carbon as a tetrad. This has probably been one of the most important steps yet made in the development of the atomic theory, and has been seen to correspond in so clear and striking a manner with a vast number of well-known properties and reactions of compounds as to deserve and acquire the confident trust of chemists. Another great step has recently been made which may be destined to lead to most important results. It has been discovered that if we arrange the elements in the empirical order of their respective atomic weights, beginning with hydrogen, and proceeding thence step by step up to the heaviest atom, we shall have before us a natural series with periodically recurrent changes in the chemical and physical functions of its members. Of course the series is still imperfect, and exhibits gaps and irregularities; but some of the gaps have been filled up by the discovery of elements possessing the anticipated properties, inducing the hope that the others may be filled. The generalization affords a brilliant addition to the previous corroborations of the reality of the units of matter which chemists have discovered. But little account has as yet been taken of atomic motions; but it has been proved that the heat of combination affords a measure of its force, and we know that, in giving off heat, particles of matter undergo a diminution of the velocity of their motion. The force of chemical combination is evidently a function of atomic motion, but a vast amount of work will be required to develop the atomic theory to the point of explaining the force of chemical action in precise terms of such motion.

ATOMIC AND MOLECUULAR WEIGHTS.—*Variations in Atomic Value*.—Professor A. W. Will-

iamson regards the opinion that atomic values are invariable, or are variable only within particularly defined limits, as an error. He remarked in a recent address that he had been frequently struck by the fact that two theories, believed at one time to be conflicting, had been shown by the progress of study to be both true. Such was the case with the rival theories, one of which represented molecules as constructed after the pattern of three or four types, while the other viewed them as containing complex groups called radicles. Opposition existed at one time between those who made use of atomic weights and those who employed equivalent weights; and the most important step that has of late been taken is the introduction of the notion of equivalence into the atomic theory. An inspection of the series of hydrogen compounds with chlorine, oxygen, nitrogen, and carbon, will show that the atom of chlorine, which combines with a single atom of hydrogen, has a different value from the atoms of oxygen, nitrogen, and carbon, which combine respectively with two, three, and four atoms of hydrogen. Hence, nitrogen and other elements of like equivalence are called trivalent or triads, while other elements are classed, according to the exponents of their equivalence in groups, as monads, dyads, pentads, etc. Kekulé still holds that an element can belong to only one of these groups; that nitrogen, for instance, is trivalent only, and that in sal-ammoniac, where it is combined with five other atoms, instead of being pentavalent, it is a molecular compound of two chemical compounds—ammonia and hydric chloride; and that the atoms of constituent molecules and the molecules themselves were held together by different forces, one being molecular, the other chemical. We have, however, no grounds for assuming a difference between chemical and physical forces, and Kekulé's theory is no longer tenable. The theory commonly in vogue is that atoms vary in value within certain narrow limits; that nitrogen, for instance, is either trivalent or pentavalent. Professor Williamson recognizes no limitation to atomic value; but he knows that many elements have atomic values greater than those commonly assumed. The character of the atoms often materially affects the result. Thus gold can not combine with more than three atoms of chlorine alone, but it can take up an additional atom of chlorine if supplied with an atom of sodium. In this way we get the common double chloride of gold and sodium, NaAuCl_4 , in which the gold is pentavalent. We are not to consider the sodium as being here combined with the gold as such, but as combined with the whole group. Temperature, also, has an influence upon the atomic value of elements, a rise of temperature tending to diminish it.

Molecular Weight of Hydrofluoric Acid.—Professor J. W. Mallet has made some studies of the atomic weight of hydrofluoric acid, with a view to finding an explanation of some

peculiar differences in the behavior of fluorine in entering into combination with other elements. The analogies of fluorine with the halogens on the one hand, and with oxygen on the other hand, have often been remarked upon. The compounds of fluorine generally bear resemblance to compounds of chlorine, but some striking differences in the character of these compounds have also forced themselves upon the attention; and the tendency of the fluorides to the formation of double salts, with formulas analogous to those of oxygen compounds, and the formation of salts including both oxygen and fluorine, has suggested that some close natural relation may exist between these elements themselves. There has, therefore, been ground for questioning whether fluorine should be classed with chlorine among the monad elements, with the formula HF to represent hydrofluoric acid, and assigned an atomic weight of 19, or with oxygen among the dyads, with the formula H_2F for hydrofluoric acid, and an atomic weight of 38. Professor Mallet's experiments bore a special reference to this question. The result was such as to justify the assumption that at the temperature of 30° centigrade the molecule of hydrofluoric-acid vapor should be represented, not as HF , but as H_2F_2 , while at higher temperatures dissociation takes place, leading to the production of diatomic molecules of HF . The structure of the molecule of double weight, H_2F_2 , may be regarded as resulting from fluorine behaving not only as a monad, but also as a triad, and acting in double atoms like those of nitrogen in the di-azotic compounds. In such a condition the element presents a pseudo-dyad character, and becomes capable of replacing oxygen and of manifesting the linking function of that element. This assumption, supported by the experimental evidence brought forward by Professor Mallet, may serve conveniently to explain the composition of a number of fluorine compounds, whose formulas are difficult to write in a satisfactory way if fluorine be considered exclusively monad.

Atomic Weight of Platinum.—The group of metals embracing osmium, iridium, and platinum has until recently exhibited a series of irregularities in that their atomic weights did not manifest those relations to each other which their properties, in connection with Meyer and Mendelejeff's theory of classification, indicated they should bear. Dr. K. Seubert, two years ago, undertook the revision of the atomic weight of iridium, and fixed it at 192.644, putting it below that of platinum. He has since fixed the atomic weight of platinum at 194.177, giving it the place above that of iridium and below that of gold, which the theory requires it should occupy, while the previous estimation of its atomic weight made it above that of gold. The ascending series, iridium, platinum, gold, is now, as to those three metals, agreeable to theory; but osmium still occupies an anomalous position, its re-

ceived atomic weight, 198.5, being above that of gold, while the theory requires that it should be below that of iridium.

Molecular Weights of Decipium and Samarium.—M. Delafontaine, in 1878, described an earth having a molecular weight of about 122, which he had obtained from samarskite, and which he called decipia, regarding it as an oxide of a new metal, decipium. He has continued his studies of this substance, and has been brought to regard it as a mixture of two oxides, one of them having a molecular weight of about 130, and the other a lower molecular weight. The former substance gives no absorption spectrum, while the second gives the spectrum which M. Delafontaine described in 1878 as that of decipia. M. Lecoq has also announced the discovery of a new metal in samarskite, corresponding with the second substance detected by M. Delafontaine, to which the latter proposes to give the name of samarium. The molecular weight of its oxide is believed to be less than 117. Samaria appears to be identical with the earth $\text{Y}\beta$, having a molecular weight of 115, which M. Marignac has found in samarskite, while that chemist's $\text{Y}\alpha$, having a molecular weight of 120.5, may be supposed to be a mixture of decipia and terbia.

Atomic Weight of Aluminum.—Professor J. W. Mallet, considering that the estimation of the atomic weight of aluminum was resting on an insufficient basis of accurate experiment, has pursued, during three years, a course of experiments for the revision of the determination, in which he has kept in view the principles—1. That each process used should be as simple as possible, and should involve as little as possible of known liability to error; 2. That different and independent processes should be resorted to as the means of checking each other's results; 3. That each process should be carried out with quantities of material differing considerably from each other in successive experiments; 4. That only such other atomic weights should be involved as may be counted, among those already known, with the nearest approach to accuracy. Three series of experiments were conducted, of which the first series was based on the purification of ammonium alum; the second on the preparation and purification of aluminum bromide; and the third on the preparation and application of pure metallic aluminum. The mean result of the twenty-five experiments which were regarded as the more accurate of the thirty that were made, gives the atomic weight of aluminum as 27.02. This is believed by Professor Mallet to bear in favor of Prout's law, which assumes that all the atomic weights are multiples of that of hydrogen.

Atomic Weight of Cadmium.—Mr. Oliver W. Huntington, under the direction of Professor J. P. Cooke, of Harvard College, has made a revisionary determination of the atomic weight of cadmium. He used a pure bromide of cadmium, specially prepared for the pur-

pose, and the bromide of silver, likewise specially prepared, for comparison. The mean of a series of eight experiments gave 112.31 as the atomic weight of the metal. This determination is regarded as bearing against the validity of the hypothesis of Prout, that all atomic weights are multiples of that of hydrogen.

NEW PROCESSES.—Mr. Alfred H. Allen has indicated some valuable simple tests for the presence of hydrocarbon oils as adulterations in animal and vegetable oils. The methods for the detection of these oils are based on the density of the sample, the lower flashing and boiling points, the fluorescent character of the oils produced from petroleum, bituminous shale, and rosin, and the incomplete saponification of the oil by alkalies. The taste of the oil and its odor on being heated are also useful indications. If undoubtedly fluorescent, an oil certainly contains a mixture of some hydrocarbon, but the converse is not strictly true, as the fluorescence of some varieties of mineral oil can be destroyed by chemical treatment, and in other cases fluorescence is wanting. The greater number of hydrocarbon oils employed for lubricating purposes are, however, strongly fluorescent, and the remainder usually become so on treatment with an equal measure of strong sulphuric acid. If strongly marked, the fluorescence of a hydrocarbon oil may be observed in presence of a very large proportion of fixed oil, but, if any doubt exist, the hydrocarbon oil may be isolated. The fluorescence may be seen by holding a test-tube filled with the oil in a vertical position in front of a window, when a bluish "bloom" will be perceived on looking at the sides of the tube from above. A glass rod dipped in the oil and laid on a table in front of the window so that the oily end shall be projected in the view against the dark background of the floor, or a piece of black marble or smoked glass rubbed with a streak of oil and held horizontally before a window, will make a very slight fluorescence, readily perceptible. Turbid oil should be filtered, to get out the minute particles that might, by reflection, give an appearance of fluorescence. Dilution with ether, to which a little mineral oil imparts a strong blue fluorescence, gives an excellent test. The hydrocarbon oil may be driven off by heating it if its boiling-point is comparatively low, but may be better removed and the quantity of it measured by saponifying it, and washing the solution of the soap with ether. The hydrocarbon may, in this case, be recovered pure by separating the ethereal layer and evaporating it at or below a steam-heat. A good alkaline preparation for this purpose can be made by dissolving caustic potash in methylated spirit. The washing with ether should be repeated several times. The ether-process is, however, not applicable to spermaceti and the waxes, on account of the large quantities—so small in the other fats that it need not be taken into account—of matter they contain that is not acted upon by the alkalies

but is dissolved by ether. The nature of the hydrocarbon oil may be determined after it has been isolated, by observing its density, taste, smell, behavior with acids, and other qualities.

Professor G. Lunge, of Zürich, has perfected and described a simple and inexpensive process for procuring pure naphthalen that will not discolor. Presuming that the discoloration of naphthalen is analogous to that of phenol, he sought to remove the agent which caused it by oxidation. For this purpose he added an oxidizing agent in the ordinary chemical washing of naphthalen, using manganese dioxide, with complete success. Other oxidizing agents might be substituted for manganese dioxide, but a cheaper one can hardly be obtained. Naphthalen prepared by this process has kept its pure white color much longer than the "chemically pure" naphthalen made by the secret process of the manufacturers.

A patent has been taken out by M. Closson, of Paris, for a cheap and expeditious method of obtaining magnesia from magnesium chloride. The crude lye of magnesium chloride is treated with burned dolomite, or magnesian limestone, when the chlorine of the lye combines with the lime of the dolomite, so that if the latter is pure a magnesia of from 98 to 99½ per cent standard can be easily made on a large scale. The magnesia bricks prepared by this process at Leopoldshall resist even the flame of the oxyhydrogen-blast. The cost is fifteen shillings a ton. Sulphate of lime is obtained as a by-product of the process through the use of calcium chloride to remove the magnesium sulphate that is present in the magnesium chloride, and is used by paper-makers under the name of pearl-hardening. The value of the new process in its bearing on the manufacture of fire-proof furnace-linings, crucibles, etc., is very great.

Herr A. Wagner recommends the following process, which has proved very satisfactory for the limestone waters of Munich, for the determination of the organic matter in water. After the determination of all the other constituents of the water, he evaporates suitable quantities to dryness and separates the dry residue by means of distilled water into an insoluble and a soluble portion, the latter of which contains the chief bulk of the organic bodies. In the insoluble portion, which in the waters he has to deal with consists almost entirely of calcium and magnesium carbonates, he determines the organic matter by igniting a dried specimen in a platinum crucible and treating subsequently with ammonium carbonate in the customary manner. The portion soluble in water, if nitrates are absent or are present only in a quantity too small to be determined, is dried after evaporation in a platinum capsule, weighed, heated to a very low redness, and weighed again. If nitrates are present in larger quantities, so that the existing organic matter would not suffice to con-

vert the nitrates into carbonates, he adds to the soluble portion, after drying and weighing, a little pure solution of sugar, evaporates to dryness, and heats the platinum capsule gradually and by piecemeal with a very small gas-flame, so that no deflagration may happen. After prolonged but very gentle ignition, the sugar-charcoal is found burned away, when the residue is moistened with water containing carbonic acid, and weighed again after drying. The loss of weight in this case expresses the weight of the organic substances and the difference between the equivalent of the nitric acid which was present and of the carbonic acid which has taken its place. This difference can be easily calculated from the quantity of the nitrates as previously ascertained, and must be deducted. This process is not absolutely accurate, but Herr Wagner considers it more certain than others. Herr Wagner calls attention to the necessity, in experiments for determining the solid residues, of protecting the platinum or porcelain capsule in which the water is treated against the accumulation of a deposit from the gas-flame, through which a liability to error in weight is incurred. For this purpose he uses a thin sheet of platinum, instead of the ordinary wire gauze, between the capsule and the flame.

Mr. Thomas Moore has published the following new process for the separation of nickel and cobalt from iron: Having removed any excess of free acid by evaporation, and dissolving the residue in water, add to the solution a sufficient quantity of ammoniac sulphate to form a double sulphate with the nickel and cobalt present. Dilute to about 150 c. c., and add a rather large excess of oxalic acid, and stir well. In case a precipitate form, more ammoniac sulphate should be added until a clear solution is obtained. Add ammoniac hydroxide in considerable excess; stir, heat gently for a few minutes, and filter; wash well with water containing ammonia; or dilute to about 500 c. c., and, after allowing the precipitate to settle, withdraw a given portion of the clear upper stratum of liquid. This, after a further addition of ammoniac sulphate, to lessen the resistance to the electric current, is ready for electrolysis or any other method of estimating the nickel or cobalt.

Messrs. R. H. Chittenden and H. H. Donaldson, of the Sheffield Laboratory, Yale College, describe a process for the detection and determination of arsenic in organic bodies, which they recommend as very accurate, delicate, and simple. It is based upon Gauthier's process, and somewhat resembles it, but requires for reagents only nitric acid, sulphuric acid, and zinc. The organic matter is destroyed by successive oxidations with nitric and sulphuric acids, as in Gauthier's method, but at a much lower temperature. The suspected matter is then treated for fifteen minutes at 200° C., and allowed to cool, when a hard, carbonaceous residue, free from nitric acid, and containing

the arsenic as arsenious acid, is formed. This is extracted with water till it has been made to give up its arsenic, and the reddish-brown fluid containing some organic matter is evaporated to dryness. The residue is dissolved at a gentle heat with a definite quantity of dilute sulphuric acid, and introduced to a Marsh's apparatus for the decomposition of arseniuretted hydrogen by artificial heat, to which a Bunsen wash-bottle and a device for graduating the admission of the fluid have been added. The resultant gas having been dried in a chloride of calcium tube, is passed through a red-hot glass tube. Not a trace of arsenic passes by if the cooled tube is of proper length. The apparatus is then filled with hydrogen generated by the sulphuric acid-zinc process, and the glass tube, having been heated to redness, the arsenical solution in concentrated form is mixed with sulphuric acid, and the mixture is slowly passed into a separating funnel; then more and stronger acid is added, and the heat is kept up till the decomposition is wholly effected. The arsenic being collected in the form of a mirror of metal, the tube is cut, at a safe distance from the mirror, and weighed. The arsenic is removed by heating, and the tube is weighed again, when the difference gives the amount of metallic arsenic. The method is capable of detecting as little as the one thousandth of a milligramme of the metal. In organic matters the experimenters have detected a millionth of a gramme in urine and in an extract from beef. The experiments are claimed to show that the presence of organic matter in considerable quantity does not interfere with the recovery of the entire amount of arsenic.

VEGETABLE ANALYSIS.—Professor Henry B. Parsons, of Washington, D. C., has described a method for the more accurate analysis of plants. His apparatus includes a worm of block-tin pipe, suitably connected with a glass percolator, within which is suspended a smaller tube, having a bottom of filtering-paper and fine, washed linen. The weighed sample of the finely-powdered herb is placed within this tube for extraction. The solvent is introduced in a glass flask, tightly fitted to the outer percolator, and is volatilized by the application of heat through a water-bath. A tared filter, prepared by allowing fine asbestos, held in water, to settle on the perforated bottom of a platinum crucible, is also provided and connected with the receiving-vessel, while this in turn is connected with a Bunsen's pump. The air-dried specimen of the plant to be analyzed should be ground or beaten till all the particles will pass through a sieve having from forty to sixty meshes to the linear inch. A part of this should be further pulverized till it will pass through a sieve having from eighty to one hundred meshes to the linear inch. The finer part of the sample is employed in the immediate analysis, while the coarser part is reserved for the separation of those proximate principles

which may seem, from the analysis, to be worthy of more extended investigation. The amount of moisture is estimated by ascertaining the loss of weight on drying a small portion of the sample. The crude ash left after ignition is separable into the constituents that are soluble in water; those that are insoluble in water, but are soluble in dilute hydrochloric acid; and those which, insoluble in those substances, are soluble in sodic hydrate. The residue still undissolved consists usually of a little unconsumed carbon. The amount of nitrogen is determined by combustion with excess of soda-lime. Exposure of a part of the sample to the action of pure coal-tar benzole gives the benzole extract, which may consist of volatile oil removable by evaporation; alkaloids, glucosides, and organic acids, soluble in water; alkaloids, and possibly glucosides, soluble in dilute acids; chlorophyll and resins, soluble in 80 per cent alcohol; and wax, fats, and fixed oils which do not yield to either of the solvents. The part of the plant not dissolved by benzole is further treated with absolute alcohol, and afterward with other agents, as water, subacetate of lead, and dilute hydrochloric acid, as special tests. The part which remains insoluble, after treatment in alcohol, is exposed to the action of water; that part still remaining insoluble is boiled in concentrated sulphuric acid, for the conversion of starch, etc., into dextro-glucose. Boiling the residue from this treatment with sodic hydrate gives an extract containing albuminous matter, modifications of pectic acid, Fremy's "cutose," coloring, humus, and decomposition products. The crude fiber from this process, treated with chlorinated soda, bleached, and dried, leaves a residue of cellulose. Treatment with benzole, 80 per cent alcohol, and water, removes from nearly all plants the constituents of greatest chemical and medicinal interest. In analyses of food materials the compounds extracted by dilute acids and alkalies have great value.

A NEW DIGESTIVE AGENT.—In a paper before the French Academy of Sciences, M. Wurtz has drawn attention to the great chemical and therapeutical value of a substance called *papaine*, which possesses the property of exciting the digestive function. It is derived from the juice of the common papaw-tree (*Carica papaya*), which belongs to the family of the *Cucurbitaceæ*, or gourds. The milky juice which contains the papaine is slightly bitter and styptic, free from tartness, but with a weak acid reaction, and is so highly charged with albumen that Vauquelin compared it to blood deprived of its coloring matter. It flows from incisions made in the bark and the green fruits, and is immediately bottled and sent to market, either pure or with the addition of ten or twelve per cent of alcohol to prevent fermentation. If pure, it becomes coagulated; if mixed with alcohol, it remains liquid, and, after standing, separates into a clear liquid and a white precipitate, composed in great part of albumen,

fibrine, and a considerable quantity of precipitated papaine. Alcohol precipitates from it crude papaine; this, after being washed in alcohol and ether, to remove fatty matters, is again dissolved in water. The precipitate from this solution is pure papaine, which, when purified by dialysis, has the composition of an albuminoid substance. Papaine, refined with the subacetate of lead, offers several distinctive characteristics, among which are: 1. It is very soluble in water, dissolving like a gum; 2. The solution makes a lather with water; 3. The solution becomes turbid in boiling, without coagulating; when it is curdy it sometimes leaves an insoluble residue in water; left to stand, the solution becomes turbid after some days, and a microscopic examination shows it to be filled with vibriones; 4. In the presence of a saccharine liquid, papaine acts as an alcoholic ferment with an extraordinary energy and promptitude, but the digestive property may be arrested by the application of benzoic or salicylic acid. The most important property of papaine, and one which puts it in the rank of the most powerful digestive ferments, is its action on meats. One part of papaine will digest and transform into soluble peptone from two hundred and fifty to three hundred parts of meat. Its solubility in different fluids allows it to be used in a great many pharmaceutical forms; and, being a vegetable juice, it can be preserved with more stability than animal ferments, and can be kept indefinitely when dry.

REPORT ON PHOTOMETRIC STANDARDS.—The committee appointed by the British Board of Trade to examine and report upon the different standards of photometric measurement which have been proposed for adoption, as well as upon the standard now used for testing the illuminating power of coal-gas, have made a report recommending the standard air-gas flame of Mr. G. Vernon Harcourt as the most exact and trustworthy. This flame is produced by burning a mixture of air with that portion of American petroleum which, after repeated rectifications, distills at a temperature of 50° C. or 122° Fahr. The portion is almost entirely composed of pentane, and is used in the proportion of one volume of pentane at 60° Fahr. to 576 volumes of air. The flame is brought to a height of two and a half inches with a burner a quarter of an inch in diameter. The light is quite uniform, the extreme difference obtained by two observers in nineteen observations being 0.3 of a candle, or 1.8 per cent. The committee found candles very objectionable as standards, and subject to a maximum variation in 115 determinations of 22.7 per cent between two pairs of candles. Messrs. Keates and Sugg's plan for burning sperm-oil with a two-inch flame from a circular wick was found subject to sudden variations; and Mr. Methven's system of allowing only a particular part of a three-inch coal-gas flame to pass to the photometer was not considered sufficiently exact for the work required of it.

COLOROMETRIC ESTIMATION OF CARBON IN IRON.—The great extension which has taken place in the applications of steel has made it desirable to obtain tests for the presence of carbon of a more minute degree of exactness than has heretofore been deemed sufficient. Professor Eggertz has described, in the "Jern Kon-torets Annalen," a method of colorimetric estimation which is applicable to cases in which an exactness of 0.01 per cent is wanted. The basis of his process is the solution of ferric hydrate in nitric acid, to which a volume of water equal to that of the acid is added; when the quantity of acid used is commensurate with the proportion of carbon in the iron, the yellow-green color of the solution is cleared on adding an equal volume of water. Care must be taken that no chlorine is present, for the slightest trace of that substance gives a yellowish tint. The quantity of nitric acid required for solution is regulated to a certain degree by the supposed amount of carbon in the iron. For a solution with a lower amount of carbon than 0.25 per cent, 2.5 c. c. of nitric acid should be used for 0.1 gramme of iron; with carbon of 0.3 per cent, 3 c. c.; with carbon of 0.5 per cent, 3.5 c. c.; and for carbon of 0.8 per cent, 4 c. c. of acid. When the amount of carbon is altogether unknown, begin with 2.5 c. c. of nitric acid, and afterward add more as soon as the color of the solution or the amount of separated carbon shows that more acid is required. Too little acid gives too deep a shade, while excess of acid may be remedied by adding more water. The iron to be tested should be finely divided by filing, boring, planing, or crushing. The solution should be made at 80° C., with shaking of the tube. It is often more convenient to put the tube in boiling water; and speed can be gained at the expense of having a reddish-yellow film to deal with, by gently boiling the mixture. Special normal solutions, for comparison, are prepared in the same manner and graduated by successive dilutions from the normal, which represents 0.10 per cent of carbon per c. c. of 0.1 gramme of iron, and may be used for iron with 0.8 per cent and higher of carbon, down to the $\frac{1}{20}$ normal which represents 0.005 per cent of carbon, and is used for iron with from 0.04 to 0.08 per cent, or the lowest amount of carbon found. The distribution of the light in the room should be considered in applying the test, and it should be observed that a tube held on the right is generally a little weaker in color than one held on the left. The presence of manganese in the iron communicates a brown color, which is changed by heating to 100° C. to a weak red-violet; chromium gives a grayish blue; vanadium, a weak yellow; nickel, a green—all of which colors vanish under a greater or less dilution with water. Cobalt gives a red color which can not be regarded as absent till the dilution has extended to 40 c. c. Phosphorus, sulphur, copper, silicon, in the proportions in which they were tested by Pro-

fessor Eggertz, did not perceptibly affect the color.

A NEW VEGETABLE COLORING PRINCIPLE.—Messrs. S. P. Sadtler and W. L. Rowland have analyzed a new vegetable coloring matter found in the West-African wood called *beth-a-barra*, a wood which is much valued for its extreme toughness and its capability of receiving a high polish. The wood is compact, very heavy, and of nearly the color of black-walnut. On close examination the interstices of the fibers are seen to be filled with a yellow, crystalline powder. In this respect the beth-a-barra differs from logwood, barwood, camwood, and red sandal-wood, with which it was compared, in which the color is uniformly disseminated, and the fiber appears as if it had been soaked in a solution of corresponding color. The solution of the coloring matter obtained by extracting from the sawdust or raspings was treated for precipitation with acetic acid, and the pure substance was obtained by successive crystallizations from the alcoholic solution of the precipitate. The material thus gotten is a tasteless, yellow compound, apparently crystallizing in scales and needles, which are found under the microscope to be made up of a series of flat prisms, joined laterally. The crystals are unchanged in dry or moist air, insoluble in cold water, very slightly soluble in hot water, but readily soluble in alcohol and ether; they dissolve with a deep claret-red color in the presence of even a trace of alkali or alkaline carbonate, and melt at 135° C. Analysis gives a composition for the material dried at 125° C. which is represented by the formula $C_{28}H_{28}O_5$, or possibly $C_{22}H_{23}O_4$, and for that dried at 100° C., $C_{28}H_{20}O_5 + 3H_2O$. The beth-a-barra presents a similarity in many of its reactions leading to the suspicion of a relationship with chrysophanic acid and chrysarobin.

ACTION OF SEA-WATER ON CAST-IRON.—Professor A. Liversidge, of the University of Sydney, has made a study of the action of sea-water on cast-iron in the case of the serew of the steam-dredge Hunter, which became so rotten that it had to be removed. Even on the most cursory examination the specimen was seen to differ entirely from the original cast-iron, except in its shape, which remained unchanged. The material was so altered in composition that it might be safely described as a pseudomorph, since it was almost entirely made up of oxide of iron and particles of graphite. It was quite sectile, being readily cut with a knife. The powder under the microscope presented a mixture of brilliant scales of graphite with brown-colored oxide of iron and a few widely scattered minute particles of metallic iron. The external part of the specimen was of a dull-gray color, while within it was rusty brown, with dark bands following more or less closely the outer contour lines. The specific gravity was found to be only 1.63. Phosphorus appeared to have been completely eliminated by the

action which had gone on, and the amount of sulphur was quite small. Several notices of a similar transformation of cast-iron into graphite occur in the annals of chemistry, the oldest one dating as far back as 1740. Wrought or malleable iron does not appear to be subject to it. The plumbaginous masses thus formed frequently but not invariably become red hot and spontaneously inflammable on exposure to the air. The transformation is attributable to the local galvanic action set up between the diffused scales of graphite, films of slag, or other foreign matter contained in the iron. The coating of plumbago and rust is negative to the metal, and hence if left on assists in further corrosion; but the rate of corrosion, according to the observations of Mr. Robert Mallet, appears as a decreasing one when the coating first formed is removed prior to a second immersion. When cast-iron is exposed to the combined action of fresh water and sea-water, the action is said to be much more rapid, for the heavier sea-water below, and the lighter fresh water above, with the iron, form a voltaic pile having two liquids and one solid.

A NEW MINERAL, BEEGERITE.—Mr. George A. König has described and analyzed a new mineral from the Baltic lode of the Geneva Mining Company, Park County, Colorado, to which he has given the name of *beegerite*. The specimen on which the investigation was made was composed of quartz, about one half, and the new mineral in the two conditions of a light gray mass, and of crystals showing a darker gray color but exhibiting a very strong metallic luster, which were chemically identical with the gray mass. Beegerite forms minute crystals of orthorhombic habit; has a specific gravity of 7.273; acts before the blow-pipe like a mixture of galenite and bismuthite, with a small quantity of copper, and decrepitates; and is dissolved by concentrated hydrochloric acid, slowly in the cold, but rapidly in the heated acid. The analyses gave it a composition represented by the formula, $Pb_6 Bi_2 S_6 = 6 PbS + Bi_2 S_3$, with some copper. The compound exhibits properties nearly coinciding with those of galenite, and is qualitatively related with the two species, cosalite and schirmerite.

THE ALKALOID OF PITURIE.—Professor Liversidge, of Sydney, New South Wales, has extracted the alkaloid principle of piturie, a vegetable substance obtained from a species of *Duboisia*, of the order *Solanaceæ*, which is chewed by the Australian natives, and exerts an action similar to that of tobacco. Baron von Mueller and M. A. Ladenburg had previously experimented with the alkaloid, but their accounts of it do not agree. As prepared by Professor Liversidge, by distillation of the plant with caustic soda, solution in ether, and removal of the ether by distillation, the alkaloid, piturine, is at first clear and colorless, but becomes yellow and finally brown with access

of air, especially when exposed to sunlight. If air is excluded it will remain unchanged for a long time. It is soluble in all proportions in water, alcohol, and ether, yielding colorless solutions, and produces a greasy stain on paper, which disappears after a time. It is a little heavier than water, is volatile at ordinary temperatures, giving a vapor which forms a dense fog with hydrochloric acid, irritates the mucous membranes very much, and induces violent headaches in those working with it. Its taste is acid and pungent, and very persistent; its smell when fresh is very like that of nicotine, but after it has become darkened is more like that of pyridine. It neutralizes acids completely. Its composition is represented by the formula $C_6H_8N_{14}$.

CULTIVATION OF NITRIC FERMENTS.—Mr. R. Warington has communicated some preliminary results of a course of experiments he has been making on the conditions in fermentation which respectively determine the formation of nitric and nitrous acid. When a small quantity of fresh soil is employed to seed solutions of chloride of ammonium supplied with nutritive ingredients, a pure, or nearly pure, nitric fermentation is obtained if the solution is sufficiently shallow and dilute, and the temperature low. Under such circumstances only a trace of nitrous acid is formed, and this changes into nitric acid before the conclusion of the action. If the solutions employed are much more concentrated, or the temperature is considerably raised, large quantities of nitrous acid are produced. In all cases in which soil has been used as seed, the nitrous acid exists only temporarily in the solution, the final product of the fermentation being always nitric acid. Soil added to a solution of nitrite of potassium, supplied with nutritive ingredients, readily converts the nitrite into nitrate. When solutions which have been seeded with soil and have undergone the nitric fermentation are themselves employed as seed for new solutions of ammonia, the final result as before is nitric acid, provided the solution used as seed is only a few months old. With older solutions the result of the fermentation is apparently only nitrous acid, which does not further change into nitric acid, except when, as sometimes occurs, a white organism, a bacterium, after a considerable time, appears on the surface of the liquid, and spreads, under favorable circumstances, to cover it. When a solution which has undergone the nitrous fermentation is used as seed, it again produces a purely nitrous fermentation. These results accord with the fact noticed by Pasteur, that the energy of infectious organisms may be reduced by cultivation. The nitrifying ferment appears, then, to exist in the three conditions of the nitric ferment of the soil, producing nitrates; the altered ferment producing nitrites; and the surface organism, which changes nitrites into nitrates.

RELATIONS OF BACTERIA AND VARIOUS GASES.—Mr. F. Hatton has made some experiments to

ascertain the nature of the action exerted by various gases on the life and increase of bacteria, and what influence the bacteria have on the percentage composition of the gases. The organisms, obtained from a meat-extract, flourished well in atmospheric air, pure hydrogen, pure oxygen, and a mixture of carbonic oxide, carbonic anhydride, oxygen, and nitrogen, absorbing oxygen and developing more or less of carbonic anhydride, with an apparent evolution of hydrogen and nitrogen in the latter experiment. Cyanogen seemed to be fatal as such to the organisms, but they appeared to revive, especially in the sunlight, after it underwent decomposition into ammoniac oxalate. The bacteria lived well in sulphurous anhydride, nitrogen, nitrous oxide, nitric oxide, carbonic anhydride, a mixture of hydrogen and oxygen obtained by the electrolysis of water, coal-gas, and a solution of urea and phosphate of potash. With spongy iron and air, the bacteria vanished, and the air when analyzed consisted of N 99.74 per cent, CO_2 0.26, and no oxygen. Acetylen, salicylic acid, strychnine, morphine, narcotine, and brucine, had no effect on the bacteria. Phenol, spongy iron, alcohol, and potassium permanganate, were very destructive to them. Mr. W. M. Hamlet has found that bacteria can exist in carbonic oxide, hydrogen, one-per-cent creosote, phenol, methylamin, methylic alcohol, and chloroform, and Mr. Grace-Calvert has found that they can live in strong carboic acid. The evidence of other observers is to the effect that the virulence of fever-producing liquids is destroyed by chlorine and sulphurous acid; and this suggests the query whether the organic matter to which they owe their power may not be essentially different from the bacteria described by Mr. Hatton.

ACTION OF INORGANIC SUBSTANCES ON THE CIRCULATION OF LIVING ANIMALS.—Dr. James Blake has been led, by the results of a long series of researches on the phenomena elicited by the direct introduction of inorganic matter into the circulation of living animals, to the conclusion that the intensity of the physiological action of such matter increases in direct ratio with the atomic weight. The action of salts of forty-one elements was tested upon horses, dogs, cats, rabbits, geese, and hens, with identical results. The different groups of metallic elements—monads, dyads, triads, and the rest—formed series in each of which the increase of activity corresponding with the rise of the atomic weight was manifested with striking regularity. Among some peculiar features of the experiments were that chlorine, bromine, and iodine agree closely in their physiological action—showing, however, a decrease instead of an increase in intensity; that phosphorus, arsenic, and antimony do not induce any immediately perceptible physiological reaction; and that the salts of potassium and ammonium, the latter of which produce results resembling those of certain nitrogenous alkaloids, exhibit the only exceptions to the rule that isomor-

phous substances act in an analogous manner.

FREE FLUORINE.—Fluorine occupies a peculiar position among the elements the existence of which is satisfactorily established, in that it has never been isolated. This arises from the fact that its chemical affinities are so powerful that when it is released from any of its compounds it instantly attacks and combines with any material out of which it is practicable to make a vessel for the experiment. Loew has very recently announced that he has discovered what he supposes to be free fluorine in a variety of fluor-spar found at Wolsendorf in Bavaria, which is of a dark-violet color, and emits a peculiar odor. The origin of the odor has not hitherto been satisfactorily explained. Loew believes it to be due to fluorine existing free within the mineral, and has made some experiments which appear to bear out his conclusion.

ABSORPTION OF NITROGEN BY IRON.—Professor Ira Remsen has had his attention called to a power manifested by iron, under certain conditions, of exhibiting the reactions of nitrogen. He was making experiments to verify the applicability of the method of Lassaing for the detection of nitrogen in bodies containing carbon to compounds in which sulphur is present, when, working with a fusion of a compound which had been proved to contain no nitrogen with sodium and iron by hydrogen, he perceived the blue precipitate revealing the presence of nitrogen to be distinctly formed. The experiment was repeated several times, with the same results, while the tests which were applied showed that all the substances operated with were free from nitrogen. Another specimen of iron by hydrogen, which had been kept for several years, and which did not take fire by contact with the air, failed to give the nitrogen-test. This led Mr. Remsen to believe that nitrogen was absorbed from the air by iron, under some power connected with its active condition. Further experiments gave results, both of a positive and negative character, agreeable to this view, so as to induce a confident statement of the conclusion that when iron by hydrogen and certain non-nitrogenous organic substances are heated together with metallic sodium in an atmosphere of nitrogen, a cyanide is readily formed. The action is similar to that which takes place in blast-furnaces when formation of cyanide of potassium takes place. Experiments made with Bessemer steel and other forms yielded results corresponding with those referred to above.

ARSENIC IN WALL-PAPERS.—Mr. Harry Grimshaw, F. C. S., of Manchester, England, has called attention to the presence of arsenic in paper-hangings of other colors than green, which were obtained from the recent stock of a manufacturer in Lancashire, with the assurance that they contained no arsenic. Six specimens of as many different colors, including three greens of different shades, light brown, dark brown, and pink, all contained

arsenic in considerable proportions—the pink, which had the least, having enough on a square foot to poison an adult person. By the side of these papers were placed, for comparison, six other samples obtained from another manufacturer, the colors of which could hardly be distinguished from those of the arsenical papers, but which were wholly free from arsenic. From these and other papers which were compared with the same object, it was found that almost any color that may be desired can be obtained without the addition of that substance. If any difference exists in the appearance of the arsenical and non-arsenical colors, it is that the former are rather brighter. This, however, is not altogether a merit, for wall-colors may very easily be too bright. It is still undetermined whether the cheaper or more expensive papers usually contain more arsenic, and also in which class it is more commonly found.

AMMONIA IN HUMAN SALIVA.—Mr. B. H. Heyward, of the laboratory of the University of Virginia, has made some researches into the presence of ammonia in human saliva. Evidence of the presence of the alkali was obtained by observing the action of heated oxide of magnesium upon filtering-paper moistened with the Nessler reagent. The paper showed a distinct orange tint when saliva was present, but was not affected when the saliva was omitted. In all of nineteen different cases examined, of as many young men in good health, the ammonia reaction was obtained. In ten of the cases the amount was approximately determined to be in proportions varying from thirty to one hundred milligrammes of ammonia per litre of saliva. The proportions in the mixed saliva of a single person varied, on seven successive days, between forty and sixty milligrammes per litre. Special experiments directed to the different salivary glands indicated that most, if not all, of the ammonia came from the parotid and submaxillary glands, the latter furnishing notably the larger share, and that the source of ammonia—at any rate, the sole or chief source—is not to be found as free gas in the expired products of respiration condensed in aqueous solutions in the mouth.

GUM-LAO FROM ARIZONA.—A resinous substance has been found widely distributed throughout Arizona and Southern California, where it forms a coating of considerable thickness on the twigs of the *Larrea Mexicana*, or “greasewood,” which exhibits the cellular cavities containing ova of insects, and at certain seasons a red fluid, and other characteristic properties as to color, solubility, the color given to different solutions, action under the influence of heat, and odor, of the gum-lac of India. An analysis of the substance, by J. M. Stillman, of the University of California, gives its composition as consisting of 61.7 parts of resins, 1.4 of coloring matter soluble in water, 26.3 of caustic potash extract, 6.0 of insoluble residue, with a loss (including some coloring matter) of 4.6.

This shows a near correspondence, as to essential elements, with the composition of the Indian shellacs. A gum is also found, but in smaller quantities and having a less amount of coloring matter, on the twigs of the *Acacia Greggii*, which resembles the lac from the *Larrea* in its general appearance and irregular cellular structure, as well as in its essential chemical properties, and behaves in the same manner toward chemical reagents.

THE FREEZING-POINT OF ALCOHOLIC MIXTURES.—Researches which have been made by M. Raoult, of the Faculty of Sciences at Grenoble, on the point of congelation of alcoholic liquors, show that the point at which mixtures of alcohol and water begin to freeze falls as the proportion of alcohol becomes stronger. M. Raoult has made a table of the points of congelation for different mixtures, by a comparison with which the strength of any given mixtures may be determined by subjecting them to the freezing-test. Fermented liquors congeal at a temperature a little lower than mixtures of alcohol and water of the same strength, the difference increasing as the proportion of alcohol becomes stronger. In all cases the ice consists of pure water, wholly free from alcohol. Hence the part of the liquid left unfrozen is richer than the original liquid, and it follows that the point of congelation descends as the congelation progresses.

A NEW THEORY OF STEEL.—Mr. W. Mattieu Williams has proposed a new theory to account for the temperability of steel. It is well known that, if steel is heated red-hot and suddenly cooled, it becomes extremely hard and brittle; if heated again and slowly cooled, it becomes almost as soft and tough as wrought-iron. If it is moderately heated, it becomes partially softened or “tempered,” in proportion to the temperature to which it is raised. None of these properties is possessed by either of the materials, carbon or iron, of which the steel is composed. Mr. Williams’s theory is based on the fact that there exists a definite compound, consisting of four equivalents of iron to one of carbon, which may be obtained in crystals, and which is more fusible than ordinary steel, and far more fusible than iron, and is excessively hard and brittle, but not temperable like steel. When it is melted at a temperature at which iron is quite infusible, it is capable of dissolving iron, and forming a liquid mixture. When such a mixture is cooled below the solidifying point of one of the substances, while its temperature is still above that of the other, then one must be still fluid while the other is striving to solidify. “If the cooling beyond this goes on slowly, the molecular conflict will have time to settle itself; but, if the cooling is effected suddenly, there must be a ‘molecular strain,’ due to the inequality of contraction of the different parts of the solid and the liquid portions of the mixture, the internal fluid movements necessary for the adjustment of this irregular contraction of the different parts

of the substance being arrested by the sudden solidification of the whole. We should thus have a solid with its different parts pulling against each other, or set in rigid grasp, or a state in which the opposite character and fluidity or mobility of particles would be excessively developed. This would be excessive solidity, or hardness and brittleness. The molecular strain must be still more severe in the case of a substance which goes on contracting as it approaches the temperature of solidification, and then suddenly expands as it assumes solidity. This is the case with iron." Repeating the heating process would relax the mutual grasp of particles in proportion to the development of that viscosity which is one of the characteristics of heated iron; and steel is tempered at a point approaching the "welding-heat" of iron.

CHILI (REPÚBLICA DE CHILE). To the general statements of area, territorial division, population, etc., given in preceding volumes,* it may here be added that the population on January 1, 1879, has been reported at 2,155,029.

The President of the Republic is Señor Don Domingo Santa-María, inaugurated September 18, 1881, for the usual term of five years.

The Cabinet was composed, June, 1881, of the following ministers: Interior, Señor Recabarren; Foreign Affairs and Colonization, Señor Valderana; Finance, Señor Don J. Alfonso; Justice, Public Worship, and Public Instruction, Señor García de la Huerta; and War and the Navy, Señor Don J. F. Vergara.

General Baquedano, the distinguished commander-in-chief of the Chilian forces in the Chilo-Peruvian War, had been nominated as a candidate for the presidency, but withdrew his candidature. Señor Santa-María had the portfolio of Foreign Affairs in 1880.

The regulation strength of the army in time of peace was fixed by Congress, in 1875, at 3,573 men, deficiencies to be made up by conscription. The regular army, at the time of the latest returns before the commencement of the war with Peru and Bolivia, comprised 712 horse, 2,000 foot, and 804 artillery, with 749 officers of all arms; 7 generals, 14 colonels, 54 lieutenant-colonels, 67 majors, 182 captains, and 425 lieutenants; constituting a total of 3,516. The National Guard consisted of 1,215 horse, 21,147 foot, and 1,925 artillery; total, 24,287. But, on war being declared, the regular army was raised to a strength of 20,000, distributed in three divisions, and the National Guard to 30,000; thus forming a total land-force of 50,000. A single number of the "Official Gazette" was said to contain, in October, 1880, eleven decrees relating to the formation of as many new corps, with an aggregate of 20,000 men.

In an official report published in the second half of 1880, the navy was stated to comprise 11 ships of war, 12 transports, 3 pontoons, and 2 launches (torpedoes)—in all, 28 craft; with an

aggregate of 20,107 tons, 5,459 horse-power, an armament of 83 pieces of cannon, 224 naval officers, and 1,686 seamen; besides six marine officers, commanding 389 marines. In the above number of vessels were included six mail-steamers chartered by the Government until the end of the war, and equipped by their owners.

Touching the question of finances, the most reliable information at hand is that derived from President Pinto's message to the Chilian Congress under date of June 1, 1881. The revenue, ordinary and extraordinary, for the year 1880, was in that document set down at \$43,992,584, and the expenditure at \$43,123,829; the latter sum being only approximate, "inasmuch as, out of the extraordinary number of accounts arising from the war, it is but natural that many should still remain unsettled, the amount of which is not precisely known; as, for instance, the outlays made by the legation in France for military and naval supplies." The ordinary revenue for the year referred to stood at \$27,992,584, while the total revenue, ordinary and extraordinary, for 1879, was but \$27,693,087. It is true that in the revenue for 1880 was included the sum of \$2,500,000 derived from an "accidental source"—the redemption of annuities; and the proceeds of the sales of nitrates, amounting to \$4,000,000 up to October 2, 1880, after which time "this latter source of income was replaced by the export duty, which, besides being almost equal in amount, possesses the advantage of facility of collection without the inconveniences attending mercantile operations." The Tarapacá nitrates, just referred to, yielded considerable sums to the Government, for account of which they were worked until October 2, 1880, as stated above, the sales having been effected first by auction and afterward by British consignees. The working of the guano deposits having been retarded by scarcity of laborers, transactions in that commodity had been limited, the quantity exported up to June 1, 1880, not having exceeded 40,000 tons. The guano shipments were in accordance with the terms of the decree issued by the commander-in-chief of the army on February 22, 1880. In conformity with the act of September 2, 1880, all the stocks of the monopoly office had been disposed of, and the offices established in its stead were working satisfactorily. As, however, these offices were of a temporary character, the President announced his intention of submitting a bill to Congress for their organization on a permanent basis. The issue office had emitted, up to the middle of May, 1881, \$10,626,000, in exchange for a corresponding amount in treasury notes. The total value of notes issued, including the amount on hand, was estimated at \$12,000,000, which, with \$13,000,000 in bank-notes, constituted an aggregate of \$25,000,000 in circulation: an amount of paper that might under ordinary circumstances appear to be excessive, but

* See "Annual Cyclopædia" for 1879.

which was, "in reality, hardly sufficient to meet the requirements of the service now performed by the Chilian paper money, not only at home, but in a considerable portion of the South Pacific coast." The Government was represented as holding, at the date of the message, a sufficient quantity of fiscal notes to replace the entire issue of treasury notes, which, though reduced by rather more than one-third, amounted to \$26,000,000, of which \$12,000,000, deposited in the national Treasury, were bearing interest at 5 per cent, pursuant to the terms of the law of August 19, 1880.

After stating that the custom-house yield for 1880 had exceeded that for 1879 by nearly \$4,000,000, President Pinto remarks, as noteworthy, that such increase was owing to "new markets, and to increased production and consequent development of consumption.

"In the new territories successively occupied by our troops, custom-houses have been established with a view to make the war self-supporting, as far as the unhinged condition of affairs in those regions will permit. With the reduction of the national expenditure to the requirements of a normal situation, taking into consideration the gradual increase of the revenue, and the resources drawn from the conquered country, together with those to be derived from the ultimate permanent occupation of the Araucanian territory (which occupation renders urgent and indispensable the passage of the bill now before you relating to the ownership of the land in that territory), we have the encouraging conviction that the expenses of the war will be defrayed without further sacrifices. So far the Government has not found it necessary to make use of the bill recently passed for a new issue of \$12,000,000, and I believe recourse thereto will not be required in the present month. Nevertheless, care and economy in new outlays are essential to the establishment of our finances on a sure foundation that shall enable us to redeem, at an early day, our paper money, and return to specie currency."

The expenses of the war, up to the middle of 1881, have been reported, on the authority of the Chilian Minister to Washington, at \$60,000,000. Further particulars concerning the war debt and the means for paying it off were given in our volume for 1880 (article CHILI, p. 97, *et seq.*). Reference may be made to the same volume for a detailed statement of the several loans, etc., constituting the national debt of Chili, which debt was officially reported as follows, on January 1, 1880:

Home debt.....	\$27,712,848
Foreign debt.....	34,870,000
Paper money.....	12,000,000*
Total.....	\$74,582,848

The foreign trade of the republic for 1879 was, according to first returns,† of the total value of \$59,360,226, of which \$36,620,226

represented the exports. But in a later official report the exports were set down at \$42,657,839, and the imports at \$23,226,781: total, \$65,884,620. It should here be remarked that in the latter total is included that of the exports and imports at the new port of entry—Antofogasta—\$5,464,991, and \$432,173, respectively. Thus the value of the exports for 1879 exceeded that of the imports by \$19,431,058, a result very largely contributed to by the splendid wheat-crop of the year in question. The quantity of wheat exported, mainly to Great Britain, in that year, was 142,182,985 kilogrammes.

The special trade of the republic in 1880 was of the total value of \$81,404,539—exports, \$51,083,810; imports, \$30,320,729: balance of trade in favor of Chili, \$19,763,081. Included in the exports were agricultural products of the total value of \$11,661,067, against \$12,781,394 for 1879; and minerals of the total value of \$37,250,973, against \$26,248,726 for 1879. The wheat-crop was exceptionally unfavorable in 1880.

The custom-house yield for the ten months of 1880 ending October 31st reached \$7,594,891, against \$6,845,731 for the whole of the year immediately preceding.

The value of the annual exports of copper—the great Chilian staple—to Great Britain, is estimated at from \$12,500,000 to \$15,000,000.

The imports from Great Britain in 1880 were as follows:

Cotton fabrics.....	\$4,428,375
Woolen fabrics.....	236,210
Linen fabrics.....	145,285
Railway iron of all kinds.....	178,545
Cast and wrought iron.....	134,790
Total.....	\$5,123,205

According to the report of the Bureau of Statistics of the Treasury Department, the exports from the United States to Chili for the fiscal year 1879 amounted to \$1,254,000; a decrease of \$723,000 from the preceding year, while the imports from Chili into the United States during the same period amounted to \$643,000, a decrease of only \$20,000 from the preceding year. The trade of England with Chili during the year 1878 was as follows: Imports from Chili, \$10,692,000, a decrease of nearly \$12,000,000 from the imports of 1874, which occurred principally in copper, wheat, and flour. Exports to Chili, \$6,000,000, a decrease of nearly \$8,000,000 from the exports of 1874. As the decrease herein noted in the trade of England with Chili is confined to no single year, but runs consecutively through all the intervening years, it shows a steady decline in the trade between both countries. The exports to Chili from England are composed principally of the following articles: cotton manufactures, \$2,466,000, a decrease from the cotton exports of 1874 of nearly \$2,000,000, and of 20,000,000 yards; wearing apparel, arms, ammunition, bags and sacks, beer, ale, coal, earthen and china ware, glass-ware, leather and manufactures of, linens, jutes, machinery, metals and manufactures of, paints, woollens, etc.

The trade of France with Chili during the year 1878 was as follows: Imports from Chili, \$3,000,000, about the same as the imports of 1874; exports to Chili, \$3,500,000, a decrease of \$4,000,000 from the exports of 1874. The principal exports from France to Chili, during the year 1878, in the order of their value, were as follows: Refined sugar, leather and manufactures of, woolen goods, cotton goods, mercery and buttons,

* \$25,000,000 in June, 1881. (See *ante*, p. 101.)

† See "Annual Cyclopædia" for 1880, p. 99.

wearing apparel, wines, paper, pottery and glassware, fish, olive-oil, tools and implements, liquors, felt hats, medicines, jewelry, watches and clocks, etc. During the year 1877, according to the report above quoted, there entered at and cleared from Valparaiso 827 steamers, of 798,656 tons, 1,319 sailing-vessels, of 648,712 tons, a total of 2,146 vessels, of 1,447,368 tons. The United States was represented in this fleet by 68 sailing-vessels. Of the steamships, 36, of a tonnage of 126,000 tons, entered the port direct from Liverpool, *via* the Straits of Magellan. Herein lies the secret of England's large trade with South America.

The following extract from the official organ of the Chilean Government will be found to contain significant considerations on the commercial relations of Chili with the United States:

From the data collected, systematically arranged, and published in the yearly reports of the Bureau of Commercial Statistics, it appears that Chili imported from the United States in 1856 assorted merchandise to the amount of \$2,439,153, and in return exported her own agricultural and mining products to the markets of the United States to the amount of \$3,090,899. Our business thus, in that year, with the great republic aggregated the respectable sum of \$5,530,052, an amount certainly greater than its commerce with any of the other republics of this continent. Nevertheless, in the course of twenty-four years only, this condition of things has totally changed, to the great detriment of both nations. While the commerce between Colombia and the United States reaches the sum of a little over \$7,000,000 per annum, and with Venezuela exceeds \$11,000,000; while her commercial relations with the far-off Argentine Republic and the petty republics of Central America are every day assuming greater importance, our commercial statistics hardly make any record of trade, and this record only shows a trifling amount of the commerce between Chili and the United States, which in other times was so active and profitable. The decline is shown by the following official figures: In 1860 importations from the United States had fallen from \$2,500,000 to \$1,085,000 in round numbers. Three years later, our exports of copper and ores still amounted to \$1,250,000, while the imports of American products amounted to about the same sum. In 1868 the decrease was still more noticeable: our exports scarcely reached half a million, or \$400,000 less than in 1844, in which year the United States were purchasers from us to the amount of \$956,052. From 1874 to 1878 trade continued in the same depressed condition, and it is but reasonable to suppose that the fluctuations in exchange, and difficulties in obtaining exchange, will have, during the course of 1879 and the present year, still further reduced the figures representing the commercial intercourse of the two peoples. In the tables of commercial statistics, which we may properly call a journal of our progress, the total of the trade between Chili and the United States, during a term of twenty-two years, from 1844, is set down at the respectable sum of \$88,730,000; what will be the insignificance of the total for an equal period of time reckoned from 1866 may be easily calculated from the data we have already given, and it is no rash assertion to say that, if the causes which have led to this decay be not considered and some remedy applied, the day will soon come when trade between Chili and the United States will be but a sad reminiscence of our commercial statistics. It is but proper to add, in support of our observations on this decay, that the same is observable with other countries, the Argentine Republic, Ecuador, and Colombia, with which, at a period not very remote, and under circumstances much less favorable for developing and increasing trade, our own country had an active and mutually advantageous commerce.

The causes that, within the last twenty-four years, have led to this extraordinary decay in the commerce of Chili with the United States are apparent.

The astonishing development of the agricultural interests in the old mining regions of California, together with the fact that there, on rich and virgin soil, scientifically cultivated, are produced the same articles raised by us here on worn-out soils, imperfectly cultivated without the aid of fertilizers, constitutes the first and most conclusive of such causes. Not only have our cereals been driven out of the advantageous markets of California, but by the products of this same California they have been supplanted in other markets, which, but a short time since, were our own. United States flour to-day finds its way to Central America, Panama, Ecuador, and occasionally has reached even our own country to supply the deficit created by bad crops, unwise commercial calculations, or our imperfect methods of planting and gathering our crops. It is not singular that in San Francisco Chili flour should be no longer used, inasmuch as that essentially agricultural land produces wheat with such wonderful profusion; but it is very singular that the wheat of California, which is, as it were, but of yesterday, should have absolutely driven Chilean wheat, of long standing and high repute, out of all the markets of the Pacific coast. Our inability to enter into competition with it indicates the existence of questions to be resolved with regard to low rates of interest, the use of agricultural implements in planting, of fertilizers, and means of transportation. These questions must be considered in the light of the requirements of our agricultural interests. If, however, there are reasons why California, so far from buying wheat from us, brings her own extraordinary production of this article into competition with our own, such reasons totally fail when we come to consider other articles which, twenty-five years ago, we exported to the markets of the United States, and to a very considerable extent. Why is it, then, that the United States are no longer purchasers of our copper? Why is it that they have ceased to work up our wool? In 1866 we exported to the United States \$1,000,000 worth of these two articles; in 1862, \$1,943,429; and in 1863, still \$823,600. This trade, far from tending toward an increase, seems to be on the verge of disappearing. Is it, then, because the United States produce all the copper they require in their manufactures and ship-building? Most certainly not, if we are to believe their own statistics and the reports of some of the branches of their manufactures. The yield of copper in the United States is not sufficient for their consumption, and it is necessary to import from England part of that which England receives from Chili. As may be naturally supposed, this reaches the hands of the consumer in the United States with an addition of the charges for the increased freights, expenses, and profits of the first purchaser. The same, or something very nearly so, though perhaps on a smaller scale, occurs with regard to our wool. All this is due to the protective, or rather prohibitory, tariff which the Government of the United States have put in force, more particularly since 1863, when they were called upon to meet the expenses of their tremendous war of secession.

Commerce is nothing more than an interchange of products; and in order that we may become consumers of the manufactures of America, it is indispensable that our products should have easy access to the markets of that country. Drawing against England, as has been the case up to the present time, it is not probable that we shall be purchasers to any great extent of the goods offered to us. Upon such a basis of trade, and however advantageous the prices might be, it would be impossible for them to compete with similar productions from other countries. England, which buys our copper and wool, can always sell us her cutlery and hardware on advantageous terms, for financial reasons that from their obviousness it is not necessary here to state. It is not, then, through the means of education pursued by the State, or the intelligence of the American manufacturer, that the problem of establishing extensive commercial relations between

the two countries is to be solved. Let the manufacturers begin by making their own markets accessible, and asserting the principle of free interchange, without which unlimited production is simply ruinous. Let them seek to exchange for our copper and wool upon equitable terms, as in former times; then may they certainly reckon upon us as permanent consumers of their products. We will pay them for their machinery, hardware, and dry goods with our wool, niter, and copper. Efforts to augment the various agricultural and manufactured products of a country within the natural limits imposed by soil, climate, geographical position, and the grade of civilization enjoyed, are always laudable.

The attitude assumed by the Chilian Government toward the holders of Peruvian bonds was alluded to in detail in our volume for 1879. The following extracts from the London "Times" and from a British financial journal will throw the necessary light upon that question as it stood in the summer of 1881. It may be added that, down to the end of that year, little hope was entertained by the most sanguine of an early dividend. The net proceeds of thirteen cargoes sold on account of the Chilian Government, and to be applied in favor of the bondholders, was reported by the London consignees to amount to but £17,828 10s. 1 The total claim represented by bonds is £32,000,000.

With regard to the reports in the market to the effect that the Chilian Government are going to assume the burden of the Peruvian debt at a smaller rate of interest, the truth appears to be that some large bondholders here, seeing that the committee are practically impotent and that some other combination must be formed to protect the bondholders, have made a proposal to the Chilian minister to accept what, in fact, is a composition, the bondholders agreeing in return to renounce all their rights. The Chilian minister, we believe, is inclined to listen to the proposal, whatever it may be, but nothing can be done now respecting it without conferring with Messrs. A. Gibbs and Sons, with whom communications have been opened. In any case the Chilian Government are not likely to agree to any arrangement which would cause them loss, which would probably be the result of their promising to pay £2 per cent on the Peruvian debt. The most favorable estimate by the best judges is that there will not be a net revenue from the guano sales of more than one per cent on the total amount of the Peruvian debt, and the realization of even that amount depends upon the possibility of obtaining sufficient guano of a marketable quality. On this head very considerable doubts are entertained.

There has been a great deal of excitement in Peruvian bonds on the circulation of various rumors which seem to be mostly devoid of authority. It is eminently improbable that the Chilian Government will adopt the course which some ardent admirers of its generosity have been suggesting. There is no reason that we can see why Chili should take upon her the Peruvian debt, and guarantee two, or any, per cent to the bondholders. She does all she can fairly be expected to do when she gives the bondholders access to the property hypothecated to them in security for the foreign debt of Peru. Sanguine views have, however, been in the ascendant, and the price of the bonds has had a substantial rise. There is this much to be said in their favor, that even at one per cent (if it were sure) the bonds would be cheap at their present market quotations. Calculating on the basis of the vessels chartered and loading, on their way or arrived, allowing for only twenty more ships during the rest of the year, nearly two per cent on the loan

would, it is said, be within sight. There is, we agree with a correspondent of a contemporary, something more tangible in the prospect here than we have at present with the Turks. But no progress—we would remind this correspondent and other critics—is likely to be made by indulging in mere abuse of the committee of Peruvian bondholders. The letter from that body, which we publish elsewhere, proves their anxiety to have done with controversies and wrangling with the Chilian Government or any one else. But it is mere fatuity to call in question the credentials of the committee, or to speak of them as "impotent." Never was a committee appointed by a more indubitable vote. Out of a total of £32,000,000 bonds no less than £26,000,000 were registered or deposited, and £21,000,000 were voted on. The fact that the bondholders paid the assessment on their bonds sufficiently demonstrates how much they were in earnest in the matter, and how little foundation there is for the attempt to discredit their committee on the authority of anonymous "large" bondholders. If there was any pressure put on the bondholders to deposit their bonds and vote, it was applied by the Chilian minister, who caused it to be announced that their not registering or depositing would deprive them of their right to participate in the proceeds of the sales of the guano. The attacks on the committee are baseless clamors.

The subjoined additional extract from the message read by President Pinto at the opening of the Chilian Congress on June 1, 1881, will serve to complete the sketch of affairs in that country in that year:

FELLOW-CITIZENS OF THE SENATE AND CHAMBER OF DEPUTIES: It affords me pleasure to be able to inform you that our relations with friendly powers are on a footing of perfect cordiality.

A slight modification which circumstances appeared to me to warrant has taken place in our relations with Spain.* You are aware of the eagerness with which Peru and Bolivia hastened to sign a treaty of peace with Spain, in the belief that by this means they would be able to obtain warlike elements to use against us. The Peninsular Government, after entering into a treaty of peace with our enemies, maintained, however, the strictest neutrality, notwithstanding that the truce with Chili subsisted and still subsists. In conformity with this lofty policy, it ever showed itself disposed to deny to our enemies all favors which it could not grant to us also. These antecedents, added to the friendly attitude assumed by the Spanish community at Iquique on a sad occasion, induced me to think that it would be proper to show that, on our part, we were not insensible to these conciliatory actions. Believing, therefore, that I faithfully interpreted public feeling in the matter, I issued the decree of January 31st last, opening our ports to Spanish vessels. In conformity with the law of January 12th of last year, which empowered me to give in the adhesion of Chili to the Postal Union, I applied, diplomatically, to the Swiss Federal Council for the incorporation of our country into that convention from the first of April of this year.

While devoting, as you may suppose, particular attention to the requirements of the war in which we are engaged, the different branches of the public service have not been neglected.

The advancement of our frontier, both north and south, has rendered necessary the creation of new provinces and departments, and several bills having this object in view will shortly be submitted to you.

The public roads have been duly attended to with the sums provided for in the estimates, and with private donations. I have issued decrees giving to the inhabitants of provinces some participation in road affairs, which will have the effect of improving the

* A treaty of peace between Chili and Spain, after fifteen years' interruption, was concluded in 1881.

management of those matters, and will be a guarantee for the legitimate outlay of the money expended on them.

Important improvements have been carried out on the existing lines of telegraph for the purpose of affording greater facility for communication.

The prolongation of the line of telegraph to Aneud is being actively pushed on, and in a few days more the forts lately constructed in Arauco will be connected with the rest of the republic by telegraph.

In conformity with the provisions of the act of January 14th of the present year, surveys are being made for the plans and estimates of a railway from Angol to the province of Valdivia, and at an early date I shall apply for power to commence work on the first section of that line.

A bill, framed by the committee charged with the revision of the civil code of procedure, providing for the resort of cassation, will be laid before you.

The Council of Education is discharging its labors with commendable zeal, and it has submitted to the government plans of studies for the course of "humanities" and mathematics, and a plan of examinations for use in superior and secondary educational establishments.

Notwithstanding that during last year the war attained its greatest spread and development, trade has continued its regular and progressive course. The circumstance of our having been able to carry military operations into the enemies' territory from the very commencement of hostilities, thanks to our naval superiority, a fact worthy of being remembered in everything relating to the security and future of the republic, has, by maintaining open their sphere of action, been the cause of trade and industry having been free from uncertainties and fears which would have paralyzed or hindered their progress. On the contrary, the war itself, by its constant successes, has opened up new fields to enterprise by the conquest of extensive territories which have been sources of revenue to the state, and of labor and wealth for private individuals.

(For treaty of limits, see ARGENTINE REPUBLIC; and for narrative of the war, PERU.)

CHILI, PERU, AND THE UNITED STATES.
(See PERU, CHILI, AND THE UNITED STATES.)

CHINA, an empire in Asia. Emperor, Kwang-Su, formerly called Tsacteen, born in 1872, a son of Prince Ch'un, and grandson to the Emperor Tau-Kwang, who died in 1850; he succeeded to the throne in 1875.

The area and population of the provinces of the empire were estimated as follows in 1880:

PROVINCES.	Square kilometres.	Population.
Chihli*	148,857	28,000,000
Shantung*	189,282	29,000,000
Shansi	170,853	17,056,925
Honan	173,350	29,069,771
Kiangsu*	103,959	37,800,000
Nganhwui*	139,875	34,200,000
Kiangsi*	177,656	23,000,000
Fokien and Formosa*	157,320	14,800,000
Chihkiang*	92,383	26,300,000
Hupei*	179,946	27,400,000
Hunan	215,555	20,048,969
Shensi	210,340	10,309,769
Kansuh†	674,923	9,235,377
Szechuen	479,263	35,000,000
Kwangtung and Hainan*	269,923	19,200,000
Kwangsi	201,640	8,121,327
Yunnan	317,162	5,823,670
Kweichow	172,898	5,679,128
Total China proper.....	4,024,690	380,000,000

* According to "Reports on Trade at the Treaty Ports for the Year 1879." By the Inspector-General of Customs, Shanghai.

† Population in 1880, according to official reports in "Deutscher Reichs-Anzeiger," April 25, 1881.

The area and population of the other parts of the empire were as follows:

COUNTRIES.	Square kilometres.	Population.
Mantchooria.....	963,880	12,000,000
Mongolia.....	3,377,283	2,000,000
Thibet.....	1,687,898	6,000,000
Soongaria.....	404,500	600,000
East Turkistan.....	1,118,713	580,000
Corca.....	236,784	8,500,000
Total tributary countries.	7,789,058	29,680,000
Total Chinese Empire...	11,813,750	409,800,000

The estimates of the population of Peking vary between 500,000 and 1,650,000. The population of the treaty ports, according to the "Returns of Trade at the Treaty Ports for the Year 1880," were as follows:

PORTS.	Chinese.	Foreign.
Canton.....	1,600,000	248
Tientsin.....	930,000	179
Foochow.....	630,000	239
Hankow.....	600,000	129
Shanghai.....	272,234	1,980
Ningpo.....	260,000	152
Takow and Faiwan.....	235,000	43
Chinkiang.....	130,000	69
Tamsui.....	90,000	39
Amoy.....	83,000	292
Wenchow.....	83,000	13
Newchwang.....	60,000	118
Kiukiang.....	48,000	45
Woohoo.....	40,000	17
Cheefoo.....	35,000	262
Tchang.....	33,560	17
Swatow.....	30,000	127
Kiungchow.....	30,000	10
Pakhoi.....	25,000	11
Total.....	5,219,794	3,995

The number of foreigners of each nationality in the treaty ports, and the number of business houses belonging to each, were as follows in 1879:

NATIONALITIES.	Business houses.	Population.
British.....	299	2,070
American.....	31	469
German.....	64	364
French.....	20	228
Spanish.....	1	153
Russian.....	16	79
Danish.....	5	73
Japanese.....	2	61
Austrian.....	..	35
Swedish and Norwegian.....	1	35
Dutch.....	2	28
Italian.....	..	17
Belgian.....	1	9
Other nationalities.....	9	374
Total.....	451	3,995

The possibility of a war with Russia has caused the Chinese Government to consider plans for the reorganization of the army, and it has actually begun the work of reform. According to the plan adopted, three armies are to be organized: 1. The Army of Mantchooria, comprising 30,000 men, and located between Mukden and Tsitsikhar, with its headquarters at Mukden. 2. The Army of Mongolia, 20,000 strong, which is intended to defend the roads

leading through Mongolia to the Russian frontier. It is stationed in the neighborhood of Kalgan, and is placed under the command of the military chief to whom is intrusted the defense of Peking. 3. The Army of Turkistan, numbering 40,000 men, which is intended to protect the western frontier. Besides these armies of operation, there is to be another army of about 100,000 men which is to occupy the border provinces, and still another of about the same strength for the defense of Peking, and the preservation of order in the interior. This would make a total of about 300,000 men, which in time of war could be increased to 1,000,000 men.

The Chinese fleet is composed of the three squadrons of Canton, Foochow, and Shanghai. According to a report of Captain A. Boeard, in

the "Revue Maritime et Coloniale," January, 1880, it contained the following vessels:

VESSELS.	Guns.	Men.
2 frigates	52	1,260
1 corvette.....	11	350
47 gunboats.....	207	4,000
2 steam-sloops.....	4	40
3 transports.....	6	270
1 steamer.....	3	...
56 vessels.....	283	5,560

Nothing definite is known about the revenues of the Government, which are estimated at 79,500,000 taels of Haikwau (1 Haikwau tael=\$1.40). The customs receipts in the treaty ports have been published since 1861. The amounts received have been as follows (in Haikwau taels):

YEAR.	Imports.	Exports.	Coasting trade.	Tonnage dues.	Transit.	Total.
Average for 1866-1870.. {	3,350,792	5,113,503	475,291	211,271	152,740	9,303,598
1875.....	3,904,439	6,931,984	645,961	236,694	249,031	11,968,109
1876.....	4,063,582	6,995,569	611,430	234,314	248,026	12,152,921
1877.....	4,175,075	6,843,763	570,221	224,035	253,955	12,067,078
1878.....	4,188,092	7,109,603	638,059	260,131	273,103	12,433,988
1879.....	4,842,524	7,335,070	713,447	247,833	342,796	13,531,670
1880.....	4,617,773	8,268,632	786,196	249,591	336,341	14,258,538

In 1874 the Chinese Government contracted the first foreign debt, amounting to 13,500,000 taels; of this amount 7,000,000 taels have been paid, leaving a debt of 6,500,000 taels. The home debt amounts to 30,000,000 taels.

The foreign commerce of China with the United States, Great Britain, Russia, and other countries of Europe, etc., during the years 1875-'81, was as given in the annexed table (values expressed in Haikwau taels).

YEARS.	Imports.	Exports.
1875.....	67,803,247	68,912,929
1876.....	70,269,574	80,850,512
1877.....	73,233,896	67,445,022
1878.....	70,804,027	67,172,179
1879.....	82,227,424	72,281,262
1880.....	79,293,452	77,883,587

The imports from and exports to the different countries in 1879 and 1880 were as follows (values expressed in Haikwau taels):

COUNTRIES.	1879.		1880.	
	Imports.	Exports.	Imports.	Exports.
Great Britain.....	20,333,000	26,125,000	21,881,000	27,824,000
Hong-Kong.....	29,641,000	16,403,000	30,253,000	16,609,000
East Indies.....	24,677,000	550,000	20,706,000	1,106,000
Straits Settlements and other British possessions.....	1,294,000	2,805,000	1,187,000	2,995,000
United States.....	2,541,000	8,967,000	1,205,090	9,107,000
Russia (Odessa).....	.....	12,000	.....	29,000
Other countries of Europe.....	1,750,000	10,152,000	2,297,000	12,892,000
Russia and Siberia <i>via</i> Kiakhta.....	277,000	4,188,000	.....	4,055,000
Japan.....	3,417,000	2,233,000	3,501,000	2,203,000
Other countries.....	866,000	846,000	609,000	1,064,000
Total.....	84,796,000	72,281,000	81,639,000	77,884,000
Re-exportation.....	2,569,000	.....	2,346,000	.....

The principal articles of import and export were as follows (in Haikwau taels):

ARTICLES.	IMPORTS (EXCLUSIVE OF RE-EXPORTS).		ARTICLES.	EXPORTS.	
	1879.	1880.		1879.	1880.
Opium.....	36,537,000	32,345,000	Black tea.....	27,521,000	29,299,000
Cotton goods.....	22,600,000	23,333,000	Green tea.....	4,309,000	4,196,000
Woolen goods.....	4,954,000	5,811,000	Brick-tea.....	1,393,000	2,132,000
Metals.....	4,132,000	4,079,000	Silk.....	28,620,000	29,881,000
Miscellaneous.....	14,004,000	13,675,000	Sugar.....	2,225,000	3,264,000
			Miscellaneous.....	8,213,000	9,162,000
Total.....	82,227,000	79,293,000	Total.....	72,281,000	77,884,000

The commerce of the treaty ports in 1880 was as follows (in Haikwan taels):

PORTS.	Imports.	Exports.
Newchwang	250,000	153,000
Tientsin	1,191,000	4,240,000
Chefoo	651,000	94,000
Hankow	28,000	7,644,000
Kiukiang .....	.....	269,000
Chinkiang	8,000	.....
Shanghai	56,046,000	36,179,000
Ningpo	73,000	10,000
Foochow	2,802,000	9,184,000
Tamsui (Formosa)	747,000	116,000
Takow	1,236,000	1,815,000
Amoy	5,412,000	3,638,000
Swatow	8,214,000	1,240,000
Canton	2,940,000	12,508,000
Kiunchow	823,000	333,000
Pakhoi	1,213,000	211,000
Total	81,639,000	77,884,000
Re-exports	2,346,000	.....

The movement of shipping in the Chinese ports during the years 1879 and 1880 is shown by the following table (entrances and clearances being taken together):

FLAGS.	1879.		1880.	
	Vessels.	Tons.	Vessels.	Tons.
British	10,639	8,126,004	12,397	9,606,156
German	1,907	721,046	1,501	632,044
American	931	270,632	1,070	287,369
French	164	154,995	128	150,207
Japanese	157	135,208	201	167,902
Chinese	4,860	4,206,771	5,335	4,699,255
Others	2,781	309,565	2,333	331,419
Steamers	14,509	12,260,132	17,300	14,572,718
Sailing-vessels	6,900	1,667,059	5,670	1,301,634
Total	21,409	13,927,221	22,970	15,874,352

The first attempt to introduce railways was made by the construction of a short line from Shanghai to Woosung, forty miles in length. One half of this line, from Shanghai to Kangwang, was opened for traffic June 3, 1876, but closed again in 1877, after having been purchased by the Chinese authorities. There are four lines of electric telegraph, having an aggregate length of thirty-nine miles.

Tsze An, known as the Eastern Empress, one of the Empresses-dowager who were jointly clothed with the imperial authority during the minority of the Emperor, died in March. Her co-regent, Tsze Hi, lay dangerously ill for some time. Had her death followed, there would have supervened a political crisis, which might have resulted in a dynastic revolution. The selection of the present infant Emperor has constantly been held by many in authority to have been contrary to the constitutional precedents and religious principles of the empire. There are also serious irregularities in the present regency, to which the orderly minds of the Chinese are with difficulty reconciled. The regency should have been resigned by the Empresses-regent to the widow of the late Emperor; and it was imperatively incumbent upon the father of the present Emperor to keep him away from

court, and entirely remote from public affairs, because the natural authority of a father and the homage of a subject are, according to Chinese conceptions, absolutely incompatible.

The controversy with Russia regarding the restoration to China of the province of Ili, and its capital, Kulja, seemed likely in the summer of 1880 to result in a war, which would have proved most disastrous to China. The influence of the Marquis Tseng and of Colonel Gordon barely prevented the war party, headed by Prince Ch'un, the father of the Emperor, and by Tso-Tsung-t'ang, Governor-General of Eastern Turkistan, and reputed subjugator of Kashgaria, from plunging their country into the unequal conflict. The moderate progressist party, which exerted its influence in favor of peace, although it was led by the most eminent statesmen of China—Ch'un's brother, Prince Kung, and the great Viceroy, Li-Hung-chang—and had more moral weight among the mandarins, lacked the power and prestige which the support of the Empresses-regent gave their opponents. The warnings of Gordon and Tseng sustained the peace party, and prevented a collision after the rejection of the Treaty of Livadia. The Government remitted the sentence of Chung-how, the negotiator of the repudiated treaty, who had been condemned to death, and expressed its willingness to resume negotiations. Russia was reluctant to redeem her promise to retire from the occupied province whenever the Chinese Government was in a position to govern it, without some substantial recompense. The contingency of China's reasserting her sovereignty in Turkistan seemed remote at the time when Russian troops occupied Kulja. The Russian Government were apparently desirous that China, without having a cause which would appear reasonable to Europe, should be provoked into commencing hostilities. This would enable the Russians to seize upon a strip of the Korean coast, which would give the Muscovite Empire the coveted maritime foothold on the Pacific.

The failure of the Marquis Tseng to obtain satisfactory terms, which the folly of his predecessor and the indifference of Russia rendered extremely difficult, brought the martial element again to the front in the winter of 1880-'81. If Russia had the intention of harrying China into a declaration of war, she defeated her purpose by her own active preparations for the encounter. For it was the dread of her naval power displayed on the sea-coast, and the appreciation of her superior military strength, which enabled peaceful counsels to prevail again at Peking.

Troops were sent forward toward the frontier. The fire-eating Tso, who had the credit of having reconquered the dominion of Yakob Beg, although he had actually contributed nothing toward the achievement, and who was one of the loudest denunciators of the Treaty of Livadia, was summoned to Peking to add his support to Prince Ch'un and the war party.

The Chinese troops in Central Asia were under the nominal command of Liu-Chang-yo, who had his headquarters at Kashgar, and had from 20,000 to 30,000 men in his own command. Besides these there were about 30,000 troops garrisoned in Soongaria, or engaged in maintaining the long lines of communication between Kashgar and Kansu, under command of Generals Kinshun and Liu-Chang-yo. There were large numbers of disbanded soldiers tilling the soil, to furnish supplies to the troops. The Government was concentrating troops at Shan-Hai-Kwan. The military efficiency of the troops which the Government in its ignorance was prepared to put against trained European soldiery was contemptible. They lacked the first elements of tactical training, and were armed for the most part with worthless matchlocks. The Russians with a few thousand men could have cut off the army of 60,000 troops in farther Kansu, and the new dominion from all communication with China, and would have had them entirely at their mercy.

General Gordon, who had been summoned by the Government to advise them in their difficulties, discovered that the Chinese had deceived themselves as to their boasted progress in the military art. The superficial acquirements of the most recent improvements of military science—torpedoes, gunboats, steam-transport, heavy artillery, modern fortifications, rifle-practice, etc.—only deluded them into the belief that they were on a par with European countries, when their military organization was really as defective and primitive as before. Gordon left with Li-Hung-chang, as he returned to Europe, a memorandum upon the military power of China, and the best mode of its development. He advises the retention of the old system of tactics and organization, as better suited to the character of the people. He warns the Chinese that they can not stand up before solid bodies of European soldiery, and advises them never to attempt pitched battles. They should cultivate skirmishing; and, with their facility in throwing up earth-works, and power of quick movement unhampered by pack and baggage, they might by their numbers, frugality, and hardihood, harass and wear out an enemy with whom they could never cope in regular warfare. Their naval defenses should consist of numerous and small armed craft, and plenty of small and cheap torpedoes. The army should be armed with breech-loading rifles, and should not attempt to handle heavy field-guns or be burdened with any equipments which would hinder its movements in the skirmishing tactics of irregular warfare on which it must rely. "China needs," he concluded, "no Europeans or foreigners to help her in carrying out this programme. If she can not carry out what is recommended herself, no one else can."

The moderation and election of a pacific policy on the part of Russia, no less than the influence of the wiser Chinese statesmen and

the tact of the Chinese plenipotentiary in St. Petersburg, brought the international difficulty to a peaceful issue. By the Treaty of St. Petersburg, Russia consented to restore nearly the whole of the territory in dispute, including the important Tekes Valley, which Chung-how had agreed to surrender, and the command of the passes of the Tien-shan. China agreed to pay to the Russian Government a large sum as an indemnity for the cost of pacifying and occupying the province. The other stipulations look toward the improvement of commercial relations and the extension of the overland commerce, and their effect is likely to be for some time to come simply a moral one. The abatement of the jealousy and enmity with which Russians are regarded by the Chinese may be effected by a conciliatory policy, and the knowledge of Russia's military strength might influence the Chinese Government without a breach of friendship; whereas a war would result in the overthrow of the dynasty, and leave no means of resisting the purposes of Russia which would be permitted by other powers, and would excite an animosity which would rankle for generations in the hearts of the people. A friendly Chinese Government may permit the Russians to establish themselves in the really independent Corea. But the project of commercial supremacy in Eastern Asia, which is the practical object of Russia in advancing eastward in the interior and in seeking to establish stations on the Pacific sea-board, would be defeated entirely by an embittered conflict with the Chinese people.

The fleet which Russia concentrated at Vladivostock at the critical stage of the Kulja negotiations was the most powerful ever sent to the Eastern seas. Had hostilities broken out, the two northern provinces of Corea would probably have been occupied by the Russians, giving them a position on the Yellow Sea which would always be within easy striking distance of the capital and northern ports of China, besides the much-desired harbor of Yung Hing, better known under the Russian name of Port Lazareff. The harbor of Port Lazareff on the Sea of Japan is one of the finest in the world, being perfectly sheltered and containing anchoring-ground for any number of vessels of the deepest draught. It lies only about one hundred miles south of the Tumen River, which divides Corea from Russian Tartary. Russian statesmen have desired for generations to secure a harbor which should be open all the year round on the Pacific, and have already been disappointed in two which have been tried. This port, which lies at their door, and can be annexed at any time without a blow and with small risk of serious complications, answers perfectly the commercial and strategic requirements.

The Treaty of St. Petersburg, by which the retrocession of Kulja to China was accorded, secured to Russia in return extended commercial privileges in China. The development of

an active overland trade with the Chinese Empire is the only peaceable object which would yield adequate returns for the Russian operations in Central Asia. The monopoly of the Chinese trade has been one of the traditional aims of the Russian Government. The new treaty opens another free passage through the Great Wall besides Kalgan, which has been the terminus of the Russian caravans for two hundred years. The new entrance at Souchow, near the western end of the Great Wall, will not probably transfer the business of the old route to that town, but will open up a new trade of uncertain value. The Russians will not be allowed to conduct their caravans beyond Souchow, but will have consular representatives in that place, in Turfan, and at other points. The country which is commercially tributary to the new route is not, however, one of very rich resources. Souchow lies west of the province of Kansu and within trading distance of Kulja, Kashgaria, and the neighboring states. The portion of the province of Ili which was retained by Russia is a tract which had been colonized by Russian subjects. It extends from the post Boro-Kudzir to the river Kargos, being the northwest abutting corner of the Kulja district. The indemnity payable by China is ten million rubles. The common frontier between the Chinese and Russian dominions, extending from Kashgaria in the west to the river Tumen-Dham in the east, has a length of nearly five thousand miles.

The difficulties experienced in transporting troops and preparing for the Russian invasion which seemed imminent during certain stages of the Kulja controversy, have had the effect of arousing the practical administrators in China to the necessity of disregarding the prejudices of the court and the academy against railroads and telegraphs, and of providing their country with the defensive advantages of modern means of transport and communication. Apart from the conservative opposition to barbarian innovations, there have been physical difficulties in the way of the utilization of the telegraph by the Chinese, owing to the complexity of their alphabet. This difficulty would be removed by the adoption of the autographic system, or still better by the employment of the telephone, the improvements in which instrument are watched with great interest in China. The Government has authorized Li-Hung-chang to construct a telegraph from Peking to Tientsin and Shanghai. The Government has also taken into consideration a project, approved by the principal officers of the army, to build a railroad from the capital to the port of Tientsin, seventy miles distant, and thence to the Yangtse River, five hundred miles farther south. The latter section, if the plan is adopted, can not probably be undertaken soon in the present state of the imperial finances, at least not until the Russian indemnity is cleared off.

Two additional gunboats were completed for

the Chinese navy by Armstrong in the summer. Like the nine which had before been furnished, they are of diminutive size, and are entirely unarmored; but, unlike the rest of the fleet, they carry large guns of a penetrative power only equaled by those of the huge new English and Italian ironclads. They are fleetier than any armored craft; are so small that they can not be easily hit, and if hit are not likely to be disabled, as their vulnerable parts are under water.

The clearing out of the obstructed waterways of the metropolitan province has been undertaken at the instigation of Tso-Tsung-t'ang, who proposes to employ several thousand veteran soldiers on the work. Prince Ch'un and Li-Hung-chang supported their political opponent in this costly but necessary improvement. The net-work of rivers which intersect this part of China flow through the vast alluvial plain with a current so sluggish that they become filled with silt if they are not periodically dredged out. Neglect to do this for many years past has occasioned frequent and destructive inundations.

The Chinese Government seem to have grown more earnest in their efforts to suppress the opium-vice. In England a growing popular sentiment demands the stoppage of the Indian supplies of the drug. A smaller proportion of the opium consumed in China comes from India than has been commonly supposed. In Western China, where the habit is almost universal and is indulged in openly, the entire supply is locally produced, and in the eastern provinces the lower classes use the coarser Chinese product. In Eastern Sze-Chuen, Kwei-Chow, and Southwestern Hu-Pei, and other parts of the west, there is an enormous production, larger considerably than is reported to the Government. The province of Yunnan has been restored to cultivation, the leading crop being a winter growth of poppies. A large contraband trade is carried on with the eastern provinces. In Eastern China also there are opium districts on the border-land of Chihli, Ho-Nan, Shantung, and Kiang-Su. The crop is seven times as remunerative as grain, but is less sure. In famine years the officials sometimes destroy the poppy-crops according to law, but at other times there is usually no interference with the culture. In the treaty recently concluded with Russia, as in the commercial treaty with the United States, the Chinese Government inserted a clause prohibiting the importation of opium. These provisions indicate an intention to reopen the subject of the Indian imports of opium, either with the design of stamping out the vice, or of preventing India from draining from China through the opium monopoly sums huge enough in the aggregate to pay a large proportion of the enormous expenses of her government. The reports of the trade for 1879 show that the imports were larger than in any previous year, and about 15 per cent in excess of those of the preceding year, being

82,927 piculs in all (1 picul=133½ lbs.). There were 2,300 piculs of Persian opium, which has been much used of late years to mix with the other sorts. The rest of the importation was exclusively of Indian production. The domestic product, whether the culture is forbidden, connived in, or encouraged by the local authorities, is equal to the total imports several times multiplied, and acquires larger proportions annually. The Treaty of Tientsin fixed the maximum tariff which the Chinese Government might impose upon Indian opium. China has persistently endeavored to obtain the rescission of this clause. The income derived by the Indian Government from the monopoly of the opium manufacture has increased meanwhile from £4,000,000 to £9,000,000, and the cultivation of opium in India is still spreading. Financial considerations, supported by the usages of international law, would explain and justify China's attitude in demanding the removal of the restriction upon her right to regulate her own tariff. There are evidences, however, of sincerity in the present efforts of the Chinese authorities to discourage and gradually exterminate the pernicious habit of opium-smoking. The Indian traffic might properly engage their attention pre-eminently on account of the spread of the vice among the respectable classes, who use the Indian-grown article only. The number of persons in China who suffer from the opium-habit is estimated by the inspector-general of customs, Mr. Hart, at not over 2,000,000, or $\frac{1}{3}$ of one per cent of the total population. The Secretary of State of China recently addressed a letter to the British Government, in which he described the pernicious effects of the traffic. There are indications that when the demand to rescind the oppressive clause in the treaty with Great Britain is urged, the power of public opinion in England will compel its abrogation, notwithstanding the grave problem in the finances of India, from one sixth to one third of whose revenues are drawn from this ignoble traffic.

The total foreign commerce of China in 1880, as returned at the treaty ports, was 157,000,000 taels, a larger amount than ever before reached. The share of the British Empire amounted to at least 120,000,000 taels, and that of Great Britain alone to 49,000,000. The proportion of the carrying trade conducted in British ships is as great, 73 per cent of the exports and imports being carried in British bottoms. The coastwise trade, 40 per cent of which was once done by American vessels, is now equally divided between native and British craft. The extraordinary quantities of American cottons brought into China in 1878 and 1879, which caused a tremor in British commercial circles, ceased to be exported as soon as better prices ruled in the United States. The high average prices obtainable in the domestic market seem to deter the American manufacturers from extending their facilities and entering into serious competition with the

British cotton-millers for this important trade which the high reputation of their goods places within their grasp. The import of American drillings fell off from 633,000 pieces in 1879 to 172,000 pieces in 1880, while British drills rose from 387,000 pieces in 1879 to 628,000 pieces in 1880. American sheetings continue in demand at prices which tempt American exporters; but they are being imitated and undersold by an inferior Lancashire fabric. The warning given by the marked preference of the consumers for unadulterated goods in the years of American competition has been heeded in England. There was a much smaller proportion of heavily sized goods imported into China in 1880 than in previous years. The importation of the Manchester staples, gray shirtings and T-cloths, in which there has never been any competition, increased from 3,130,000 pieces in 1865 to 7,519,000 pieces in 1875, and 8,260,000 pieces in 1880, while the prices have fallen.

CHLOROPHYL, PHYSIOLOGICAL FUNCTION OF. The conversion of the carbonic acid of the atmosphere into living protoplasm in the green organs of plants may be considered the starting-point of animate nature. The first living organisms which appeared upon the planet must have been chlorophyl-containing plants. All the phenomena of life are consequent and dependent upon the constructive operations by which the primary gases and their simple compounds are transformed into highly complex substances within the bodies of plants, chief of which is the formation of hydrocarbons by the leaves. Animals, and the few plants which are without chlorophyl, only subsist by the destruction and resolution into their lifeless elements of the substances thus built up by green plants. The nature of this primary and fundamental process in the chemistry of life is a mystery. The green coloring matter of the leaves has seemed to be the chief agent in vegetable alimentation, and its action seems to be excited by the sunlight. The results of the German botanist Pringsheim, who has devoted several years to an investigation of the office of chlorophyl, even if his theoretical deductions are not conclusive in all points, throw a new light upon the properties and action of chlorophyl and substantially forward the solution of the greatest problem of organic chemistry.

Careful observations of the optical properties of chlorophyl confirmed the findings of previous investigators. Chlorophyl solutions of various degrees of density were found by spectroscopic analysis to absorb the blue and violet rays in a much greater measure than the red, yellow, and green. The structure of the chlorophyl corpuscles has been established for the first time by Pringsheim. They consist of a honey-combed spherule of some solid substance, probably an albuminoid, whose cavities are filled with an oil containing the chlorophyl in solution. In the chlorophyl corpus-

cles he has found a new substance, to which he gives the name of *hypochlorin*. When chlorophyl-cells are placed for twenty-four hours in dilute hydrochloric acid, and then washed with water and laid in glycerine, in a short time brownish drops are seen to ooze out of the chlorophyl-granules. These consist of hypochlorin, which has been drawn out of the interior of the granule, probably by the mechanical action of the acid. After a space of time, long spiral needles, which seem to be imperfect crystals, form from the drops of hypochlorin. No hypochlorin is obtained from chlorophyl tissue which has been strongly heated. Wiesner found that chlorophyl is destroyed by intense sunlight. Pringsheim has shown that excessive sunshine destroys not only hypochlorin as well, but breaks down other constituents of the living plant-cell. The destruction of these substances, he found, by subjecting the parts of plants to concentrated sunlight, and interposing different coloring matters, takes place in the cold blue rays as well as in the warm red rays—much faster, indeed, in blue light. The decomposition was clearly due to a peculiar action of light, and not to the heating effect of the sun's rays. Further experiments showed that it only took place in the presence of free atmospheric oxygen. It was therefore a process of oxidation excited by light. It was known that the process of oxidation, analogous to the breathing of animals, took place in plant-cells, not only in the dark, but in the light as well; though it was believed to be more rapid in the dark. Pringsheim's observations prove that light greatly accelerates the process. Light seems, then, to perform two distinct and opposite parts in vegetation, one in the reduction of carbonic acid to substances poor in oxygen and highly combustible, the other in the combustion of certain of these assimilated materials. If the assimilation did not proceed more actively than the process of oxidation, plant-life would be impossible. The function of chlorophyl seems to be, then, to act as a shield or screen to prevent excessive oxidation, protecting the combustible products of assimilation from the action of light, which appears to excite and intensify the oxidation.

The first step in the nutritive process of plants, the primary assimilation product formed from inorganic matter, is an interesting subject of speculation. The laws of arithmetical proportion, which govern the combination of analogous organic compounds, have led to the prediction of numerous substances before they had been obtained in a separate state. The theory of Baeyer, that formic aldehyde, CH_2O , is the primary assimilation product, which forms the basis of the various hydrocarbons, is, therefore, not without justification. Pringsheim advances the hypothesis that hypochlorin is the product of the assimilative process. It will probably be obtained separate from other bodies and in quantities admitting

of analysis, and then its claim as the product of assimilation can be better considered. Pringsheim's supposition that it is a compound poor in oxygen is rendered likely by its ready combustion under the influence of focalized sunlight. Its generation in the chlorophyl-granules, and the little that is known of its chemical behavior, are indications in favor of its being the radical developed by the assimilative process, if there be but one, which, by a more moderate oxidation in the living cells, passes over into the hydrocarbons, oils, and other organic compounds. It is always associated with chlorophyl. In the seedlings of angiospermous plants which have been kept in the dark, neither chlorophyl nor hypochlorin are found. After they have been exposed to light awhile, they begin to turn green, and not till then do they show any traces of hypochlorin. A remarkable exception to the general rule is presented by seedlings of the conifers, since these produce both chlorophyl and hypochlorin, though kept in a place where no light has access.

CLAYTON-BULWER TREATY. (See PANAMA CANAL.)

CLIFFORD, NATHAN, born at Rumney, New Hampshire, August 18, 1803; died at Cornish, Maine, July 25, 1881. In the Haverhill Academy he received a common-school education, and afterward graduated at the Hampton Literary Institution, being indebted to his own exertions for this advantage. He studied law, was admitted to the bar, and commenced the practice of his profession in York County, Maine, 1827. In 1830 he was elected to the State Legislature as Representative from the town of Newfield, as a member of the Democratic party, of which he was considered one of the ablest leaders. He served until 1834, having been elected Speaker of the House in 1833. By Governor Dunlap Mr. Clifford was appointed Attorney-General of the State of Maine, which office he filled with distinguished ability. In 1838 he was nominated for Congress as a Representative from York district in place of Mr. John Fairfield, who was then the Democratic candidate for Governor. After an excited contest, he was elected by a large majority over Mr. Nathan D. Appleton, Whig. In 1840 he took the field as an advocate of Mr. Van Buren's re-election, and met in public discussions some of the most distinguished Whig orators, being recognized as one of the eloquent champions of the Democracy. He was re-elected to the Twenty-seventh Congress, receiving nine hundred majority of votes over Daniel Goodenow, Whig.

On Mr. Polk's accession to the presidency, Mr. Clifford was appointed Attorney-General of the United States. In this high position he acquitted himself in a manner which received the commendations of the bar and of the Supreme Court. As a member of Mr. Polk's Cabinet his talents were acknowledged by his party, and, when the Mexican War was draw-

ing to a close, and the complications of General Scott, Mr. Trist, and Governor Marcy threatened the success of much that had been won by our arms, Mr. Clifford was sent to Mexico with full powers to conclude a treaty. Superseding all the functionaries as commissioner of the United States, he arranged the treaty of peace by which California became an integral portion of the United States. After bringing about this important piece of diplomacy, and having ratified the treaty with the reorganized Mexican Republic, he received the appointment of minister to Mexico as a testimonial for his valuable services. He remained there long enough to cement the new peace, and to secure the cordial and complete execution of the articles of the treaty, when he resigned, and went back to the practice of his profession in Portland, Maine. Although he did not again appear as a candidate for office during seven years, he found time to advocate the principles of Democracy and State Rights on all important occasions. At the bar of Maine he won an enviable reputation for forensic skill, and commanded a large and lucrative practice. In January, 1858, President Buchanan appointed him Associate Justice of the Supreme Court of the United States, and the intelligence of his elevation to this dignity was received with general satisfaction throughout the country, especially in Maine. He had been the first member of the Cabinet taken from that State, and the only representative she ever had in the Supreme Court.

The many years of his service on the bench were marked by a stern devotion to duty, as well as by integrity and capacity, and his appointment to the presidency of the famous Electoral Commission was everywhere regarded as most appropriate. He was a firm believer in Tilden's title, and his position made it necessary for him to sign the decisions of the commission. The preparation of the papers in the Florida case fell to Senator Hoar, on account of Senator Edmunds's illness, and their completion was delayed until within a few minutes of noon of the 4th of March. By insisting upon a rigid personal scrutiny of the papers Judge Clifford could have put off their execution until too late for the inauguration of Mr. Hayes. He did not, however, throw the smallest obstacle in the way of the work, but showed almost equal anxiety with Mr. Hoar in hurrying it forward, and promptly affixed his signature as soon as the documents were completed. During the administration of Mr. Hayes, however, he never went to the White House. In October, 1880, he was attacked with a serious illness, which was so severe that it not only incapacitated him from work, but affected his reason; despite a robust and hardy constitution, a complication of disorders arose, gangrene supervened, and it was found necessary to amputate one of his feet. From this illness he never recovered, and in his death the country has lost a man distin-

guished for diplomatic and legal talents of a high order.

CLINTON, J. J., died May 25, 1881, at Atlantic City, New Jersey. He was the senior bishop of the conference of the African Zion Methodist Episcopal Church. Bishop Clinton was born about the year 1820, and enjoyed school advantages which were at that time denied to most of his race, and, although not a graduate of any university, he received an excellent academic education, and by his unusual natural abilities soon rose into prominence. He commenced his ministerial labors as an accredited preacher in Philadelphia in 1839, and as local preacher in 1840, entering the itinerant sphere in 1841. He was ordained deacon in 1844, elder in 1846, and was elected and consecrated to the episcopal office in May, 1864. As a worker for the African Zion Connection, he was among the first, and during the forty years of his labors traveled through almost every State in the Union. He was Missionary Bishop to the South during and subsequent to the war, and accomplished remarkable results in establishing missions and annual conferences which were the life of the colored Methodist Church in the South. As a contributor to the press he was forcible, eloquent as a public speaker, and in his preaching wonderfully effective. Possessed of rare executive ability, it was conceded by both white and colored people that as an episcopal officer he had few superiors. His death resulted from paralysis, and memorial services were held by all the churches of the conferences in his honor.

COLOMBIA (REPÚBLICA DE COLOMBIA). For statistics relating to area, territorial division, population, etc., see "Annual Cyclopædia" for 1877. Concerning the boundary question with Costa Rica, an extract of resolutions, passed in the Colombian Congress in 1880, was given in our volume for that year. It has been stated that toward the close of 1881 undoubted information had been received at Washington of a treaty said to have been signed between the two republics, intended for the purpose of securing European arbitration in the disputed question of isthmian territory. By the terms of the treaty, several arbitrators were proposed: First, the King of the Belgians; next, in case of that monarch's refusal, the King of Spain; and, finally, should the latter too decline, the President of the Argentine Republic. Neither of the disputants had made official communication of the treaty to the United States Government. It was hoped that the proposed arbitrators would refuse to act; for, if they accepted the offer, the Washington Government would, in the opinion of the author of the report, protest—"the United States claiming the rights of a virtual protectorate over the States upon the Isthmus of Panama as far as to the northern boundaries of the province of Chiriquí, and not disposed to relinquish that quasi-suzerainty, whatever the decision of a European arbitrator might be. It

is understood that M. de Lesseps is the author of the arbitration scheme, with a view to concentrate upon the Isthmus a European influence as against the United States, whose government is antagonistic to the Panama Canal."

The President of Colombia was General Rafael Nuñez (from April 1, 1880, to March 31, 1882); and the Cabinet was composed of the following ministers: Foreign Affairs and Public Instruction, Señor R. Becerra (*ad interim*); Interior, Señor O. Calderon; Finance, Señor S. de Herrera; Commerce, Señor A. Roldan; Public Works, Post-Office, etc., Señor Gregorio Obregon; War and Marine, General Eliseo Payan.

The chief magistrates of the nine States were as follows:

Antioquia.....	Señor P. Restrepo.
Bolívar.....	" B. Noguera.
Boyacá.....	" J. E. Otalora.
Cauca.....	" G. E. Hurtado.
Cundinamarca.....	" W. Ibañez.
Magdalena.....	" N. Campo-Serrano.
Panama.....	" D. Cervera.
Santander.....	" S. Wilches.
Tolima.....	" J. Santos.

Each of the foregoing functionaries has the title of president, except those of Cundinamarca and Tolima, who are styled governors.

The Colombian Minister Plenipotentiary to the United States is General R. S. D. Vila; and the Colombian Consul-General at New York is Señor Luis de Pombo.

The United States Minister Plenipotentiary to Colombia is General Manney (accredited in 1881); and the United States consuls at Bogotá and the chief Colombian seaports respectively were as follows: Bogotá, Mr. B. Koppel; Panama, Mr. John M. Wilson; Aspinwall, Mr. James Thorington; Cartagena, Mr. Edmund W. P. Smith; Sabanilla and Barranquilla, Mr. E. P. Pellet; Rio Hacha, Mr. N. Davies (vice-consul).

The regulation strength of the army in time of peace is 3,000, and in time of war each of the nine States is required to furnish a contingent of one per cent of its population. The total number of officers in the Guardia Colombiana was officially given at 1,927 in 1880.

The revenue and expenditure of the republic for the fiscal year 1879-'80 were officially reported at \$5,651,905 and \$5,773,575, thus showing a deficit of \$121,670. In the budget for the same year, the revenue and expenditure were estimated at \$4,910,000 and \$8,634,571; while in the President's message to Congress, on February 1, 1880, the revenue was set down at \$10,469,291.07½, and the expenditure at \$9,926,013.52½; but in these last figures must have been included items of expenditure extraordinary and loans to cover deficits.

"Owing to the peace which has been maintained, and which still reigns throughout the country," observes a Colombian newspaper correspondent, "a considerable rise is noticeable in national stocks. The custom-house department, for example, will produce in this financial year (1881-'82) from \$4,250,000 to

\$4,500,000; and it is anticipated that the necessary and increasing development of our industry and commerce will swell this return within two years to at least \$6,000,000."

The national debt was reported as follows, on August 31, 1880:

Foreign debt.....	\$9,957,000
Home ".....	7,526,189
Total.....	\$17,483,189

The subjoined communication on the subject of the debt was published in London, in 1881:

SIR: The bondholders of the United States of Colombia may congratulate themselves upon the era of prosperity now dawning on that country. Colombia, favored by nature and the world's commerce, is destined to become, *via* the Panama Canal, the connecting link between the Atlantic and Pacific Oceans, and the medium of the commerce of two hemispheres. The Colombian Government, recognizing the important position thus assigned to it, has decided to re-establish its credit by recognizing at once its obligations to its foreign creditors, and has, by a circular, dated March 3, 1881, agreed hereafter to pay all coupons on its foreign debt as they fall due, and will pay immediately the coupon due October 31, 1879, in arrear, and also fund six quarterly coupons in arrear, giving bonds bearing 5 per cent interest. The secretary of the Foreign Bondholders' Committee has called a meeting for the 17th instant, to enable the bondholders to accept and ratify the above arrangement. The position of each bondholder will then be as follows: each holder of £100 stock will receive interest quarterly, on and from July 1st next, at the rate of 4½ per cent per annum, hereafter to be increased to 5 per cent, and will receive in addition one coupon in arrear in cash, and six coupons in arrear in stock, making the nominal value of his holding £111 6s. 3d. for each £100, bearing interest at the rate of 4½ and 5 per cent, the present price of which is 45. Colombia, with such a future before her, necessitating her borrowing in the money markets of the world for the construction of railroads and other public works, has the strongest incentives to maintain her credit. Hence her creditors may be of good cheer.

March 10, 1881.

In September of the same year, however, the Council of Foreign Bondholders communicated that they had received authentic information from Bogotá, under date July 6th, that the Colombian Congress had closed without any steps having been taken to secure the ratification of the convention of the 3d of March, 1881, with the bondholders. The resumption of payment was consequently indefinitely postponed.

The foreign trade of the republic, in the year 1879-'80, was of the total value of \$24,391,984 (of which \$13,804,981 was for exports), against \$24,499,165 (of which \$13,711,511 stood for exports).

The chief export staples are gold, silver, Peruvian bark, coffee, skins, tobacco, Panama hats, India-rubber, and cotton.

The trade carried on through the port of Panama is of two kinds, local and transit. Of the former, we shall here mention only that with the United States, whither the exports for the year ending December 31, 1879, were of the classes and values exhibited in the annexed tabular statement:

COMMODITIES.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Totals.
Antiquities.....	\$45 00		\$100 00		\$145 00
Balsam.....		\$69 70			69 70
Cigars.....	2,160 00				2,160 00
Caeno.....	844 00		3,815 30	\$439 32	5,098 62
Coffee.....	86 75	6,977 50	2,048 30	1,376 90	10,484 45
Copper.....	175 00		815 70		990 70
Ginger.....	108 00	379 00			487 00
Hides.....	24,982 80	19,234 40	19,640 40	23,592 41	92,449 51
Hops.....				250 00	250 00
Italian wine.....		18 00			18 00
Ivory-nuts.....	46,036 90	28,966 90	50,037 30	16,762 25	141,853 35
Molasses.....		103 00			103 00
Opium.....	8,771 70	4,500 00	6,300 00		19,571 70
Pearls.....				35,000 00	35,000 00
Rubber.....	23,456 60	12,499 60	27,642 00	52,043 00	115,641 20
Sarsaparilla.....		51 30			51 30
Sea-beans.....		70 00			70 00
Skins.....	669 90	\$16 00	2,339 60		3,525 50
Vanilla.....	96 80			3,147 80	3,244 60
Wood.....	4,014 27	2,385 30	1,206 40		7,605 97
Whale-oil.....			18 00		18 00
Totals.....	\$111,397 22	\$76,070 70	\$114,008 00	\$137,611 68	\$439,087 60

The value of the imports from the United States it is impossible to determine with precision, Panama being a free port of entry, and no official record being kept of imports thereto; but Consul Wilson estimates that value at \$450,000 for the year mentioned. The commodities received from the United States are chiefly canned goods, fruits, jellies, corn, beef, beans, etc.; bacon, hams, lard, butter, breadstuffs; prints and other cotton fabrics. Since 1878 the trade in American dry goods appears to have greatly increased, from one half to two thirds of the entire quantity imported being of American manufacture, while formerly the supply was almost exclusively from Europe (Great Britain, France, and Germany). Panama merchants attribute this change to the present superiority of quality and style of the United States products, together with their comparative cheapness, but more particularly to the quality and style, since they find our fabrics to be preferred to all others, even at equality of prices.

As all merchandise *in transitu* is carried over the Panama Railway, an idea of the extent of the trade may be formed from the total tonnage of that line for the years 1876-'79, as shown by the following schedule:

MONTHS.	1876.	1877.	1878.	1879.
January.....	12,165 ⁴ / ₁₀	7,508 ¹ / ₁₀	14,201 ³⁴ / ₁₀	11,761 ²² / ₁₀
February.....	8,915 ² / ₁₀	10,162 ² / ₁₀	12,621 ¹² / ₁₀	12,954 ¹ / ₁₀
March.....	14,494 ² / ₁₀	13,170 ² / ₁₀	10,765 ⁹ / ₁₀	14,853
April.....	9,569 ⁴ / ₁₀	13,451 ¹² / ₁₀	14,746 ⁹ / ₁₀	13,957 ¹⁸ / ₁₀
May.....	11,385 ¹¹ / ₁₀	16,095 ⁴ / ₁₀	14,571 ³⁰ / ₁₀	14,726 ¹¹ / ₁₀
June.....	9,671 ¹³ / ₁₀	11,291 ³² / ₁₀	12,245 ¹³ / ₁₀	14,903 ³⁵ / ₁₀
July.....	8,778 ¹ / ₁₀	12,043 ⁴ / ₁₀	11,914 ³⁰ / ₁₀	12,860 ⁷ / ₁₀
August.....	7,305 ² / ₁₀	11,625 ³¹ / ₁₀	11,177 ³² / ₁₀	12,579 ² / ₁₀
September.....	8,718 ² / ₁₀	13,746 ² / ₁₀	11,079 ² / ₁₀	12,214 ⁸ / ₁₀
October.....	7,766 ¹⁴ / ₁₀	12,047 ¹⁷ / ₁₀	13,978 ²⁷ / ₁₀	13,835 ³⁷ / ₁₀
November.....	6,918 ¹³ / ₁₀	12,302 ²⁴ / ₁₀	12,074 ¹² / ₁₀	12,806 ¹⁸ / ₁₀
December.....	8,092 ²² / ₁₀	13,500	13,100 ¹ / ₁₀	12,480 ³⁷ / ₁₀
Totals.....	113,781 ¹⁵ / ₁₀	146,942 ²⁸ / ₁₀	152,477 ²⁷ / ₁₀	161,743 ²⁵ / ₁₀

Here follows a table exhibiting the quantities of the principal commodities received *in transitu* at Panama from Central and South America and transported by the Panama Railway in 1877, 1878, and 1879:

COMMODITIES.	1877.	1878.	1879.
Bark.....bales..	20,169	40,500	39,653
Cotton.....bales..	4,775	13,576	40,026
Cacao.....bags..	115,019	59,466	186,110
Coffee.....bags..	233,131	191,561	351,070
Indigo.....zeroons..	11,884	7,438	9,531
Ivory-nuts.....bags..	56,937	134,596	89,795
Rubber.....bales..	16,516	16,360	16,711
Sugar.....bags..	22,956	18,011	12,348

The quantities and destination of the coffee received at Panama from Central America (principally Guatemala and Costa Rica) in the first four months of 1879, were as follows:

DESTINATION.	Sacks.
Panama.....	3,047
South Pacific ports.....	5,094
Aspinwall.....	57
Europe (by British steamers).....	106,316
Europe (by German steamers).....	44,122
Europe (by French steamers).....	36,400
United States (by American and British steamers).....	24,706

Total..... 219,742

The port of Aspinwall, with a population of some 3,000, imports now from the United States almost everything it requires of foreign production, except liquors and cigars. Heretofore, scarcely anything went from us save cotton fabrics, and these under guise of a British brand! The value of the imports from the United States, in 1879, was estimated at \$800,000.

The exports to the United States from Aspinwall, in 1879, were as follows:

COMMODITIES.	Values.
Bananas.....	\$152,551 35
Cocoa-nuts.....	13,177 99
Hides.....	1,392 27
Ivory-nuts.....	124,459 43
Rubber.....	55,518 85
Tortoise-shell.....	5,510 00
Wood.....	773 72
Old rope.....	1,513 60
Sundries.....	36,614 14
Total.....	\$391,511 40

Cartagena, the finest and the only natural harbor in Colombia, has, besides its own local trade, that of the Sinu and Atrato Rivers, for which it is the port of entry, and the prospect of controlling before long much of the commerce now carried on through Barranquilla. This diversion will be effected by means of a canal which,

tapping the Magdalena at Calamar, connects that river with the harbor of Cartagena, and which, reopened to navigation by the national and State governments, was under repairs as early as 1879, by an American engineer, and already navigable by craft of five feet draught. The cotton fabrics are almost exclusively from Great Britain and Germany: those from Manchester alone, in 1878, were of the value of \$100,000.* United States products are little in demand, and the few articles received are regarded as inferior to similar commodities from Europe. French butter, for instance, brings \$1 per pound; American, but 60 cents. The imports and exports at Cartagena for the year ending August 31, 1879, were as below:

IMPORTS.

SOURCES.	Number of packages.	Quantities (pounds).	Values.
United States.....	38,194	2,106,688	\$210,053
Germany.....	12,772	576,510	70,901
England.....	17,507	1,313,106	290,542
France.....	7,148	479,864	99,182
Cuba.....	552	93,130	13,433
Curacoa.....	259	45,622	4,559
Italy.....	16,560	401,164	8,053
Venezuela.....	1	41	100
Aspinwall.....	2,425	141,933	40,731
Totals.....	95,418	5,159,060	\$737,559

EXPORTS.

DESTINATION.	Number of packages.	Quantities (pounds).	Values.
United States.....	334,800	3,279,688	\$157,920
Germany.....	24,645	2,541,572	230,736
England.....	4,007	3,604,686	167,930
France.....	1,417	101,400	4,264
Cuba.....	1,549	427,090	37,434
Curacoa.....	8,084	16,036	735
Italy.....	3,380	243,400	7,476
Aspinwall.....	10,688	150,358	7,543
Costa Rica.....	21,686	2,251,640	17,469
Totals.....	460,256	12,920,370	\$631,557

Through the port of Sabanilla the trade with the United States is steadily increasing. The value of the exports to the latter in 1879 was \$2,464,668, against \$2,071,131 in the year immediately preceding, as follows:

COMMODITIES.	Quantities.	Values.
Bark.....bales..	80,893	\$1,141,746 60
Coffee.....bags..	34,293	769,555 07
Hides.....loose..	115,353	448,336 88
Tobacco.....bales..	2,085	42,191 40
Tobacco.....bales..	5,103	.....
Balsam.....boxes..	748	25,251 95
Fustic.....tons..	1,419	20,485 40
Rubber.....bales..	208	2,547 00
Plants.....boxes..	29	382 00
Skins.....bales..	49	2,035 90
Cigars.....boxes..	1	20 00
Mineral.....bags..	1	30 00
Ivory-nuts.....bags..	634	6,534 30
Dividivi.....bags..	157	360 00
Horns.....loose..	6,800	136 00
Cedar.....logs..	1,371	1,392 00
Cacao.....boxes..	87	2,400 50
Various.....packages..	90	9,733 46
Total.....	.....	\$2,464,667 90

* A single Manchester firm, it has been said, sent to Medellin, in Colombia, prints of the value of \$750,000 in the same year.

† Shipped *via* New York for Europe without invoice.

From examination of the foregoing statistics the general impression derived would be that the trade between Colombia and the United States is less than that between Colombia and Europe. But there are figures to demonstrate that such is in reality not the case. For example, let France and Great Britain be taken as points of comparison, and we find the following elements:

Colombia imported from Great Britain in 1878....	\$5,098,000
“ “ “ France* in 1878.....	5,104,000
“ “ “ the United States in 1879	5,585,000

Total..... \$15,737,000

Colombia exported to Great Britain in 1878.....	\$4,534,000
“ “ “ France* in 1878.....	2,592,000
“ “ “ the United States in 1879..	7,187,000

Total..... \$14,313,000

Thus our exports to Colombia were, though slightly, in advance of those of either of the other two countries; but we imported from her more than both of the others together.

The chief imports by Colombia from all three countries last mentioned were as follows:

COMMODITIES.	France.	Great Britain.	United States.
Cotton fabrics.....	\$601,000	\$3,606,000	\$664,000
Linen fabrics.....	92,000	382,000	.....
Woolen fabrics.....	774,000	222,000	14,000
Wearing apparel.....	753,000	162,000	76,000
Hardware and cutlery....	.....	90,000	11,200
Iron, wrought and unwrought.....	47,000	69,000	45,000
Leather and manufactures of.....	1,026,000	50,000	82,653
Arms, ammunition, etc....	.....	43,000	466,000
Earthen, china, and glass ware.....	64,000	35,000	52,000
Machinery, etc.....	.....	23,000	239,000
Sundries.....	1,747,000	416,000	3,885,117
Totals.....	\$5,104,000	\$5,098,000	\$5,585,000

Four lines of steamers make Panama their terminal port, namely: 1. The line from Panama to San Francisco; 2. That from Panama to Central America and Mexico; 3. From Panama to the South Pacific as far as Valparaiso; 4. From Panama to Guayaquil. The two first-mentioned lines are owned and managed by the Pacific Mail Steamship Company, of New York; the two latter by the Pacific Steam Navigation Company, of Liverpool, England. The line from Panama to San Francisco runs two and, during the coffee season, three steamers a month each way, calling at Punta Arenas, Costa Rica; La Libertad, Salvador; San José, Guatemala; Acapulco, Manzanillo, San Blas, and Mazatlan, Mexico. The Central American and Mexican line runs three steamers per month, each way, calling at Punta Arenas, San Juan del Sur, Corinto, Amapala, La Union, La Libertad, San José, Champerico, Port Angle, and Acapulco. The line from Panama to the South Pacific runs weekly each way from Panama to Callao, calling at the

* About \$1,000,000 of the imports from France were from other countries and in transit through France; and perhaps a like proportion of the exports to France were likewise for other countries.

ports of Buenaventura, Tumaco, Guayaquil, Payta, connecting at Callao with their line to Valparaiso, and calling at eighteen different ports along the coast. The line from Panama to Guayaquil runs one steamer per month, each way, calling at Ballenita, Manta Bahía, Esmeraldas, Tumaco, Buenaventura.

The port of Aspinwall is visited by steamers making seventeen regular monthly arrivals and as many departures, as follows:

1. The Royal Mail Steam Packet Company, from Southampton; nine steamers; four arrivals per month.

2. The West India and Pacific Steamship Company, from Liverpool; twelve steamers; two arrivals per month.

3. The Compagnie Générale Transatlantique, from St. Nazaire and Havre; three steamers per month.

4. Hamburg American Line, from Hamburg; seven steamers; two arrivals per month.

5. Harrison Line, from Liverpool; sixteen steamers; one arrival per month.

6. Atlas Steamship Company, from New York; two arrivals per month.

7. Pacific Mail Steamship Company (American); three steamers per month from New York.

Of the seven lines but one is American.

The shipping movements at the port of Cartagena for the year ending August 31, 1879, were as follows:

REMARKS.	STEAMERS.		SAILING VESSELS.		TOTAL.	
	No.	Tons.	No.	Tons.	No.	Tons.
Entered.....	101	148,667	55	5,006	156	153,673
Cleared	101	148,667	54	5,006	155	153,673

The number of passengers carried by the Panama Railway in 1876 was 22,940; in 1877, 22,110; in 1878, 24,921; and in 1879, 23,729.

There were, in 1880, 1,850 miles of telegraph in the republic, the number of dispatches having been 150,204. The post-office returns for 1879-'80 were as follows: Letters, 463,832; printed matter, 413,350 packets.

In the department of public instruction the spirit of reform persists with its characteristic energy. An industrial feature has of late been imparted to the educational system, for the development of knowledge in the direction of technical professions; and the conversion of all the higher schools into schools of mines, commerce, and agriculture is seriously talked of in the right places.

The construction of the four national railways is being assiduously carried on, writes a native journalist. The Honda and Girardot lines are far advanced. The Honda section avoids the falls of Magdalena River, and will be the first whose valuable services will be available. The link line which has been run along the east bank of the Magdalena is now completed, and is already rendering important aid as a means of communication between the

upper and lower Magdalena. The Colombian Guard, by their energy in forwarding these works, have increased their already numerous claims to national recognition. They can justly boast that their sappers are the best road-makers in the country; five hundred and sixty of these are now working on the Girardot and Cauca lines. Engineers are now surveying the railways of Subaehoque, Samacá, and Pacho, in the valley of the Andes, and the reports already furnished on the first two are highly satisfactory. That of Samacá, which is the joint work of the national and of the local government of Boyacá, is spoken of as "an honor to America." The Scientific Exploration Commission, instituted by legal appointment, is now fully organized, and will shortly initiate its valuable investigations. The dredging and deepening of the river Magdalena are progressing rapidly under the favorable auspices of scientific organization and ample funds. The national elections for the renewal of the legislative and executive staff, as well as those for the partial renewal of a part of the staff of government officials in some of the States, have now taken place, and have been characterized throughout the republic by perfect freedom of expression and tranquillity. Dr. Zaldua is the Federal President-elect of the Congress, and he will be supported by able representatives of every shade of political opinion. The result of the elections may be regarded as highly favorable to the existing national policy of the present Government. This sketch of political consolidation, and of slow but sure industrial and scientific development, is not without its drawbacks. The inhabitants of the towns south of the Tolima, and some in the center of Cundinamarca, are experiencing the ravages of small-pox; while the locusts, which have not yet abandoned the Atlantic coast, still desolate the Cauca, and have appeared on the other side of Chicamocha, in the State of Santander. The seaport town of Buenaventura was almost completely destroyed by fire in April, 1881.

COLORADO. The Legislature met on January 4th and adjourned on February 15th. In his inaugural address Governor Pitkin called attention to the mistaken policy of mining corporations in issuing an excessive amount of capital stock, that practice having a tendency to create a prejudice against mining investments. Upon the subject of Chinese immigration and the Chinese residents of Colorado he spoke at considerable length and with much earnestness, dwelling upon the unwholesome social and personal habits of the Chinese, and upon the evil consequences of bringing their labor into competition with American labor. He deprecated violent outbreaks, such as occurred in Denver in the fall of 1880, but declared that the State, through its Legislature, should unite with the Pacific coast States in demanding congressional action prohibiting further Chinese immigration. He referred to

the death of Lieutenant-Governor George B. Robinson, who died on November 29, 1880, having been shot by mistake by one of the armed guards stationed at his mine, as suggesting the propriety of some legislative restriction upon the power of private corporations to employ armed guards for the defense of their property. He thought it would be wise to impose a severer penalty upon persons guilty of "mine-jumping," which would in part remove the necessity for armed guards. He recommended the establishment of a reform school for boys in connection with a State farm.

Very few important bills were passed by the Legislature. Some local feeling was excited over a new apportionment law passed near the close of the session, in which the ratio of representation in the State Legislature was fixed as set forth in the following sections:

SECTION 2. The ratios for the senatorial apportionment shall be: First, one Senator for the first 5,000 population; second, one Senator for each 9,000 population thereafter, with one Senator for fractions over 7,000 population.

SEC. 3. The ratios for representative apportionment shall be: First, one Representative for the first 1,000 population; second, one Representative for each 5,000 population thereafter, with one Representative for fractions over 3,000 population.

The representation of certain counties was further specifically prescribed in the bill. Arapahoe County was allowed eight Representatives and Lake County four, the former having a population of 38,607, and the latter 23,787. In behalf of these counties there were many protests against the reapportionment. A law was passed forbidding, under severe penalties, any person to engage in, promote, or aid any lottery, gift-enterprise, or any similar scheme in the State, or to advertise in a newspaper or otherwise any matter relating to a lottery. A law was also passed authorizing the Governor to appoint a State Fish Commissioner, with a salary of \$500 per annum, holding office for two years, and the sum of \$2,500 was appropriated to purchase grounds and erect a building for a fish-hatchery. For the expenses of maintaining the hatchery during the year ending June 1, 1882, the further sum of \$3,500 was appropriated, and for the second year \$3,000. Under this law the Governor appointed Wilson E. Sisty to be Fish Commissioner. A fish-hatchery was erected on the river Platte, about three fourths of a mile from Denver. It was opened on the 14th of December and stocked with 400,000 brook-trout eggs from the Old Colony trout-ponds at Plymouth, Massachusetts. The hatchery has fifteen troughs, with a capacity of 1,000,000 eggs.

There were no political conventions held during the year, and no general election took place, the balloting on November 8th being for district judges, district attorneys, and in one district (the sixth) for State Senator. At this election the question of the permanent location of the State capital was submitted to

the people. The Constitution of 1876 contained a provision that the capital should be at Denver until the first general election of 1881, when the electors of the State should by ballot designate their choice for the permanent seat of government. The total vote on the capital question was 45,497, of which 695 were cast for Salida, 2,788 for Canon City, 4,790 for Colorado Springs, 6,047 for Pueblo, and 30,248 for Denver, which city, having thus received a majority of all the votes cast, became the permanent seat of the State government. The vote for Governor in the election of 1880, as officially declared in the Legislature, was: Frederick W. Pitkin (Republican), 28,465; Hough (Democrat), 23,547. Owing to the death before his inauguration of the Lieutenant-Governor-elect, George B. Robinson, the Lieutenant-Governor of the previous administration, H. A. W. Tabor, continues to fill that position. In 1880 the vote for Garfield was 27,450, Hancock, 24,647; Garfield's majority, 1,368.

By the removal of the Utes and the Uncompahgre Indians from the Colorado reservation to Utah the State is rid of several thousand very undesirable denizens, and vast tracts of the most fertile lands in Colorado are made available for settlers. By the terms of the agreement between the United States and the confederated bands of the Utes, as set forth in the act of Congress approved June 15, 1880, it is provided that "the Southern Utes agree to remove and settle upon the unoccupied agricultural lands on the La Plata River in Colorado, and if there should not be a sufficiency of such lands on the La Plata River and in its vicinity in Colorado, then upon such other unoccupied agricultural lands as may be found on the La Plata River or in its vicinity in New Mexico." As no such quantity of lands as was contemplated in this agreement could be found in the locality indicated, its terms were changed and the Indians were induced to consent to a transfer to equally fertile and desirable lands in the Uintah reservation in the Territory of Utah. The Ute Indian Commissioners, Messrs. Mears, Russell, and McMorris, had several parleys with the braves in the course of the summer, and found them not disposed to keep their agreement. The commissioners named the 25th of August as the day for removal. The White River Utes went peaceably enough, but the Uncompahgres were inclined to fight. Under the orders of the Secretary of the Interior, the assistance of General McKenzie and a force of 800 troops was invoked by the commissioners. Though they outnumbered the white troops and were equally well armed, the Indians decided to obey, and on the 28th they started for the Utah reservation. During the autumn months there was a good deal of complaint that the Indians returned to the valleys of the La Plata and Uncompahgre Rivers to hunt, and that they annoyed settlers and interfered with the surveys of the Utah extension of the

Denver and Rio Grande Railroad then going forward. This matter was the subject of a correspondence between Governor Pitkin and Secretary Kirkwood. The Secretary called attention to the fact that as yet settlers have no rights upon the old reservation lands, for the protection of which they can properly invoke the aid of the Government, as those lands have not yet been formally opened for settlement. Nevertheless, white settlers flocked upon them as soon as the Indians retired, and for the most part the issuing of patents will be subsequent to taking possession. In the valleys of the streams on the reservation there is land enough for 1,500 ranchmen and stockmen, and the great fertility of the soil, the mildness of the climate, the abundance of fruit, vegetables, forage, fish and game of all kinds, will cause the whole region to be rapidly peopled. But few Indians now remain in Colorado, and these are in such close proximity to the whites, in the extreme southwestern portion of the State, that there is very little fear of any disturbance from them. The Uintahs and White River and Uncompahgre Utes are now located together along the Uintah River in Utah.

In the annual report of the Director of the Mint, Colorado is credited with a production of \$3,400,000 in gold and \$15,000,000 in silver for the fiscal year ending June 30, 1881, a total of \$18,400,000. The production of the previous fiscal year was somewhat larger, being \$3,200,000 in gold and \$17,000,000 in silver, a total of \$20,200,000. Local estimates put the total bullion product of the calendar year 1881 at \$23,500,000, of which more than half, or \$13,170,576, was turned out by the smelting-works in and about Leadville. There was more hard, intelligent, and well-directed work done in the mines of Colorado in 1881 than in any previous year. The falling off in the out-put was due to failure of one or two leading mines previously yielding large amounts of ore, and the closing of half a dozen others through the incessant flow of water in their best workings. Some new mines were opened, but nothing in the nature of a "bonanza" was brought to light. A more serious falling off in the aggregate production was prevented only by a better system of working existing mines, the avoidance of wasteful methods, and a more careful attention to small results. By the use of better machinery the cost of treatment was in many cases materially reduced; grades of ore which were formerly considered worthless, and were thrown into the waste-dumps or left in heaps in the mines, were taken out and treated with fair profits. Not only in and around Leadville but throughout the mining districts there was evidence that the era of wild speculation and extravagant expectations is rapidly passing away. There is a growing disposition to take a more sober and sensible view of the business of mining, to be content with returns which would be recognized as liberal in any other business, and to manage a mine with a

view to a production within reasonable limits, but constant, rather than in the foolish hope of sudden and enormous gains. Instead of issuing an excessive amount of capital stock and trying to pay a dividend on the first batch of ore smelted, mine-owners are now beginning to put faith in the wiser policy of moderate capitalization, with a sufficient amount paid up to develop the mine and put it in order for uninterrupted and productive working. In fissure-mining, for instance, experience has proved that a manager can not undertake to pay dividends before the shaft has been sunk 500 feet, with four or five levels at intervals of from 75 to 100 feet; and, until adequate hoisting and pumping machinery has been provided, and a large reserve of ore is on hand or in sight, no prudent manager will attempt to divide any money among the share-holders. It was through following the old, reckless methods of mining development that the state of things described in the following paragraph from an article in a Denver newspaper was brought about:

The records of each mining county, and those of the Secretary of State, are burdened with mining corporations with capital stocks ranging from ten thousand to twenty million dollars. Outside of Leadville very few of these have paid any dividends at all. It is safe to estimate that ninety-five hundredths of them never will pay dividends as at present organized and conducted. A large proportion of them are conceived in fraud and full of iniquity from top to bottom. A great many are dangerous schemes, to be avoided by honest men.

The horizontal veins in the vicinity of Leadville have thus far yielded large returns. It is the opinion of the State Geologist that upright or inclined fissures will ultimately be found in the granite formation beneath the volcanic rocks in which ores are now being mined. This theory is confirmed by discoveries lately made in various parts of the State. Some of the telluride veins are of enormous richness. One mine yielded ores which, for nearly two years, gave an average of over five thousand dollars per ton in gold, and some ores yield as high as eighty dollars per pound.

Coal, iron, and petroleum are now among the products of Colorado, the two former being turned out in considerable quantities. At Rico, coking coal of a high quality is found in great abundance. A valuable lignite is produced at Como, in the South Park; and unlimited quantities of anthracite and bituminous coal are found at Gothic, Irwin, and Rugby mining-camps. The lignitic coals, found in the northern part of the State, are very dense, jet-black in color, of a high luster, and without any fibrous or woody structure. They have an average specific gravity of 1.33, are remarkably free from sulphur, the average admixture not exceeding one per cent; and they burn readily and freely, with a high heating power, and a small residuum of ash. Some of the mines from which these coals are obtained have been worked continuously for twenty years. None

of them are exhausted, and only one or two show signs of a failing supply. Large deposits of excellent iron-ore are being worked at Salida, in Chaffee County; and in the San Luis Valley, in Las Animas, Boulder, Jefferson, El Paso, and Arapahoe Counties, there are immeasurable stores of the metal awaiting future demand. Even in the Leadville silver-mines, iron-ore is yielded, as an incidental product, in sufficient quantities to supply a large part of the demand of the Pueblo Iron and Steel Works. Of oil-wells the State has at present but three—one, nine miles south of Cañon City, 1,448 feet deep; one, six miles north of the same city, now only eighty-five feet deep; and one other, in the same vicinity, which was bored to the depth of 1,200 feet, and then abandoned, though not until oil was obtained in small quantities. It is the opinion of experts that great oil discoveries are yet in store for Colorado.

The State is growing rapidly in agricultural importance. The soil is naturally of high fertility, and, through the cheap and effective method of irrigation by which the farmer is able to make a stream of water follow the plow almost at will, the risk of damage from long droughts is reduced to a minimum. The wheat-lands are made to yield twenty-five bushels to the acre, and the luxuriantly growing native grasses furnish an abundance of excellent hay and forage. The extremely cold weather of the winter of 1880-'81 caused an unprecedented mortality among the herds of cattle on the plains. Herdsmen estimate the loss at nearly thirty-three per cent of the total stock in the State. The tax-list of 1880 showed a total of 541,563 head of cattle in the State, but, as it is well known that about one third of the herds escape the assessor, the actual number was probably quite 850,000. The number at the close of the year 1881 was estimated at not over 600,000, with a valuation of \$16,000,000. The early spring and fine summer enabled the stock-raisers to make up for their winter losses in the year's sales, which surpassed those of any previous year, the price being from eight to twelve dollars higher per head than in 1880. Sheep also suffered severely in the storms of March and April, from forty to seventy-five per cent of the flocks perishing, according to location and the degree of exposure. The estimated number of sheep in the State is now 1,000,000, and their value is \$3,000,000.

It was believed that 100,000 buffalo skins would come from the Yellowstone region in 1881. This is without precedent in the fur trade. The last season 30,000 were received from the same region. The winter of 1880-'81 having been very severe and long, immense herds of bison concentrated in the few valleys where they could find subsistence. Their destruction continued during several months.

The population of the State, by counties, with the native and foreign distinguished, as returned by the census of 1880, is as follows:

COUNTIES.	Total.	Native.	Foreign.
The State.....	194,649	154,869	39,870
Arapahoe.....	38,645	29,858	9,292
Bent.....	1,654	1,456	198
Boulder.....	9,746	7,974	1,772
Chaffee.....	6,510	5,247	1,263
Clear Creek.....	7,846	5,204	2,642
Conejos.....	5,605	4,720	885
Costilla.....	2,879	2,740	139
Custer.....	8,082	7,009	1,073
Douglas.....	2,486	2,073	413
Elbert.....	1,709	1,889	320
El Paso.....	7,952	6,973	979
Fremont.....	4,735	4,004	731
Gilpin.....	6,489	3,774	2,715
Grand.....	417	354	63
Gunnison.....	8,237	6,690	1,547
Hinsdale.....	1,499	1,182	317
Huerfano.....	4,124	3,969	155
Jefferson.....	6,810	5,560	1,250
Lake.....	23,814	16,645	7,169
La Plata.....	1,110	998	112
Larimer.....	4,892	4,259	633
Las Animas.....	8,904	8,363	541
Ouray.....	2,670	2,162	508
Park.....	3,970	2,946	1,024
Pueblo.....	7,615	6,718	897
Rio Grande.....	1,944	1,664	280
Routt.....	140	107	33
Saguache.....	1,973	1,707	266
San Juan.....	1,087	685	402
Summit.....	5,459	4,026	1,433
Weld.....	5,646	4,918	728

The population of the principal cities in 1880 is here given:

Denver.....	35,718	Trinidad.....	2,226
Leadville.....	15,185	Buena Vista.....	1,975
Silver Cliff.....	4,674	Pitkin.....	1,893
Colorado Springs.....	4,279	Cañon City.....	1,848
Pueblo.....	3,317	Breckenridge.....	1,628
Georgetown.....	3,210	South Pueblo.....	1,443
Boulder City.....	3,176	Greeley.....	1,303
Golden.....	2,731	Ouray.....	1,004
Central City.....	2,626		

The records of the Auditor of State show the assessed valuation of Colorado for the year 1881 to be \$96,059,985.48. The valuation of 1878 was \$43,072,648.26; for 1879, \$59,590,761.30; for 1880, \$73,050,761.89, showing a steady annual increase of about thirty per cent. The number of acres of assessable land in the State is 2,155,340, which, with improvements, is valued at \$15,168,790. The State Board of Equalization, in April, increased the assessment-rate on the main lines of railroads running through the State by \$500 per mile. This makes the rate \$6,500 per mile on broad-gauge and \$5,000 per mile on narrow-gauge roads. With 1,584 miles of railroad in the State, this gives a valuation of \$11,638,055. The other items of the tax-list are as follows: Merchandise, \$6,674,322; capital and manufacturing, \$865,626; town and city lots, \$32,910,993; horses, numbering 70,133, \$2,732,568; mules, \$458,128; asses, \$6,558; cattle, numbering 411,970, \$4,611,359; sheep, numbering 634,542, which is far below the real number, \$1,000,041; swine, \$19,102; goats, \$5,277; all other animals, \$30,247; musical instruments, \$239,230; watches and clocks, \$250,518; jewelry, gold and silver plate, \$106,866; money and credits, \$3,473,847; carriages and vehicles, \$767,753; household property, \$607,138; all other property, \$13,354,120; bank and other

shares, \$882,780; insurance premiums, \$186,669. The number of business failures was 107, against 78 in 1880. The total liabilities were \$763,000, and the assets \$502,000, a net increase in loss sustained of \$57,000 over the preceding year. The increase in the number of dealers was about one fourth. The total State debt on November 30, 1881, was \$330,185.78, against which there was a balance in the Treasury of \$45,064.97.

The following is a statement of the operations of the State Treasury for the year ending November 30th, showing receipts amounting to \$373,302.31, exclusive of cash in the Treasury, and an expenditure of \$395,384.33:

RECEIPTS.	
Balance in Treasury on November 30, 1880.....	\$67,146 99
Receipts of general revenue (four-mill tax).....	245,880 26
Agricultural College (one-fifth mill tax).....	12,467 30
Insane Asylum (one-fifth mill tax).....	11,843 69
Mute and Blind (one-fifth mill tax).....	12,384 43
School of Mines (one-fifth mill tax).....	12,580 58
Round-up and inspection, one mill on value, neat-cattle.....	8,737 20
University of Colorado (one-fifth mill tax).....	12,321 93
Military poll-tax (fifty cents <i>per capita</i>).....	6,710 63
Penitentiary labor.....	17,303 59
State Board of Medical Examiners.....	1,925 00
Secretary of State, office-fees.....	4,143 00
Sale of printed laws.....	1,119 90
Agricultural College receipts.....	174 35
Fines for violating fish law.....	73 00
Sale of school lands.....	10,908 75
Sale of lands for internal improvement.....	847 00
Lease of lands for internal improvement.....	2,380 95
Lease of land, interest on sales and interest on school investments.....	15,597 14
Lease of other State lands.....	345 55
Colorado Land and Mineral Association.....	552 65
Other sources.....	5 36
Total.....	\$440,449 30
CASH EXPENDITURES.	
Agricultural College.....	\$12,928 26
Agricultural College (special).....	174 35
Insane Asylum.....	16,502 13
Mute and Blind.....	12,617 13
School of Mines.....	12,383 00
University of Colorado.....	12,500 00
Military poll-tax.....	6,752 38
Cattle round-up and inspection.....	4,196 33
Penitentiary labor.....	1,950 09
School-fund apportioned.....	13,569 96
Interest on warrants paid.....	17,840 92
Wolf-scalps.....	2,385 50
Hawk-heads.....	4,375 50
Mountain-lions.....	260 00
Skunk-scalps.....	49 75
Paid on account for general revenue and appropriations.....	276,443 93
Cash now in Treasury.....	45,064 97
Total.....	\$440,449 30

The following arrests were made by the United States Marshal at Denver during the year:

Violation of internal revenue laws.....	27
Robbing United States mails.....	3
Obstructing United States mails.....	2
Embezzling Post-Office funds.....	3
Embezzling letters.....	4
Forging signatures to money-orders.....	2
Opening mail-bags.....	1
Sending obscene circulars through mails.....	1
Breaking into United States Post-Office.....	1
Larceny on Indian reservation.....	5
Murder on Indian reservation.....	5
Embezzlement from army department.....	2
Embezzlement as Indian agent.....	1
Perjury before United States Receiver of Land-Office.....	1
Bigamy.....	1
Counterfeiting.....	4
Cutting timber on United States mineral lands.....	45
Total.....	103

The railroad system and railroad business of the State developed with surprising rapidity during the year. In the ten months ending November 30th, the Denver and Rio Grande road, the most important line in the State, laid 629 miles of steel rails, and built 374 miles of new road. In that period its net earnings were \$2,158,693, against \$1,372,468 in the corresponding ten months of the preceding year. The Union Pacific Railroad's Omaha and Denver Short Line was completed, bringing the two cities fifty miles nearer together than by any other route. The wheat-crop of the State was about 1,600,000 bushels, against 1,425,104 in 1880, and 258,474 in 1870. Congress, by various acts, has granted to the State of Colorado 713,322 acres of land, divided as follows: For internal improvement, 500,000 acres; for public buildings, 32,000; State penitentiary, 32,000; State University, 46,080; miscellaneous, including salt springs, 46,080; school lands, 57,152. For 420,596 acres of these lands the State has already received patents from the United States, and is in possession.

Colorado is becoming a favorite resort for invalids, its many mineral springs and extremely salubrious atmosphere giving it a high reputation among the world's sanitarium. The subjoined table gives the elevation above the level of the sea of some of the prominent towns in the State:

	Feet.		Feet.
Alamosa.....	7,000	Green Lake.....	10,000
Alma.....	11,044	Hot Sulphur Springs..	7,715
Black Hawk.....	7,975	Idaho Springs.....	7,500
Boulder.....	5,536	Lake City.....	8,550
Breckenridge.....	9,674	Leadville.....	10,205
Canon City.....	5,260	Magnolia.....	6,500
Caribou.....	9,905	Manitou.....	6,297
Central.....	8,300	Montezuma.....	10,295
Cheyenne.....	6,041	Morrison.....	5,922
Chicago Lakes.....	11,500	Nederland.....	8,263
Colorado Springs.....	5,023	Oro City.....	10,247
Del Norte.....	7,750	Ouray.....	7,640
Denver.....	5,224	Pueblo.....	4,679
Divide.....	7,210	Rosita.....	8,500
Estes Park.....	8,000	Saguache.....	7,745
Fairplay.....	9,964	Silverton.....	9,405
Garland.....	8,146	Sunshine.....	7,000
Georgetown.....	8,400	Trinidad.....	6,005
Golden.....	5,729	Twin Lakes.....	9,337
Gold Hill.....	8,463	Veta Pass.....	9,339
Greeley.....	4,776		

A system of sewerage, on what is known as the Waring plan, has been begun in Denver, and is being rapidly pushed forward. The death-rate of the city for the year was only 17.50 per thousand; the total number of deaths was 698, divided, in respect to diseases and causes, as follows: zymotic diseases, 213; constitutional, 148; local, 223; developmental, 27; violence, 57.

COMMERCE AND FINANCE, AMERICAN, IN 1881. The grandeur of the present epoch of American commerce and production can be measured by the magnitude of the agricultural exports which are its chief cause and characteristic. The total value of the exports of breadstuffs for the three years ending June 30, 1881, was \$749,470,445, having been \$265,561,328 in 1881, \$282,132,168 in 1880, and \$201,776,499 in 1879. The exports of wheat

and flour were 185,000,000 bushels in 1881, about 180,000,000 bushels in 1880, and 143,000,000 bushels in 1879, aggregating for the three years 508,000,000 bushels, valued at \$591,524,024. The exports of 1880-'81 thus exceeded those of the previous year, notwithstanding the better crops in Great Britain and Western Europe. This was owing to the depletion of stocks as well as to an increase in consumptive capacity. A reputation for American brands of flour has been established in England with such success that 8,500,000 more bushels of wheat were exported in the manufactured form in 1881 than in 1880. Prices ranged lower in 1881 than in the year preceding, so that while the quantity exported was 5,500,000 bushels greater, the total value was \$13,000,000 less, or \$211,277,588, against \$224,705,803; while the value exported in 1879 was only \$155,540,633. A calculation of the average export prices gives \$1.15 per bushel in 1881, \$1.25 in 1880, and \$1.09 in 1879. Wheat exports for the last six months of the fiscal year 1880-'81 were unusually large for that portion of the crop year, being 11,000,000 bushels in excess of the exports for the corresponding half of 1879-'80. While the good crops of the West of Europe did not, therefore, lessen the demand for wheat, the exports of rye and oats showed a great falling off from those of the preceding fiscal years. The rye exports were 1,928,355 bushels, against 2,912,744 bushels in 1880, and 4,848,249 bushels in 1879; the oat exports, 358,250 bushels in 1881, 710,890 in 1880, and 4,654,794 in 1879. The exports of Indian corn were about 91,000,000 bushels in 1881, against 98,000,000 in 1880, and 86,000,000 in 1879. The only cereal of which the exports form a considerable portion of the crop is wheat. While the normal export demand will probably prove considerably less when crops are fair in Western and Central Europe, there must be a constant and increasing demand for American wheat, which can be much more cheaply grown on the prairie humus than on the heavy and manure-requiring soils of Europe. If the American producers can adjust themselves without hardship to the normal demand, there will continue in action a favorable stimulus even after European rents have, to a considerable extent, vanished; while any cheapening in the cost of transportation will give the American producer a new advantage. Counting the crop of 1880 at 480,000,000 bushels, the exports of 1880-'81 constituted about 38½ per cent of the total wheat product.

The trade returns for the year ending June 30, 1881, show a larger total commerce than any previous year; a larger exportation of merchandise by 8 per cent than the preceding year, the next largest on record, and 33 per cent larger than the average of the last five years previous; merchandise imports almost as great as those of 1879-'80, when they were stimulated by a mania for speculation preva-

lent in the first part of the year; and a net importation of specie exceeding considerably that of the first year of resumption. The excess of exports over imports exceeded that of any other year except 1878-'79. The imports exceeded in value, and greatly exceeded in quantity, those of the years preceding the panic, which consisted largely of railroad-iron, etc., which left an adverse balance of unprecedented magnitude, and which, it was thought, were far beyond the natural consumptive powers of the people, and would not be equaled again in many years to come. The export movement was so heavy in the earlier part of the calendar year, as soon as the railroads were free from obstructions and the canals open, that in the month of June they fell off nearly \$9,000,000. The high price of provisions was the cause of much lighter shipments under that head. The table on page 122 affords a comparative survey of the foreign trade movements for the past twenty-one years.

Including the specie imports and exports, the total foreign commerce of 1880-'81 amounted to \$1,675,024,378. The increase of exports over those of the preceding year was \$66,738,688. Since 1876, when the exports began to exceed the imports, the aggregate excess of exports has been \$1,180,668,105 for the six years. The total value of the exports of domestic merchandise in 1880-'81 was \$883,925,947, exceeding those of the preceding year by \$59,979,594. The exports of breadstuffs, \$270,332,519; cotton and its manufactures, \$261,267,133; provisions, \$151,528,268; mineral oils, \$40,315,609; tobacco, \$20,878,884; wood and its manufactures, \$18,600,312; iron and steel and their manufactures, \$16,608,767, and live animals, \$16,412,398—constituted 90 per cent of the total domestic exports, the eight items summing up \$795,943,890. The grain exports fell below those of 1879-'80 \$17,704,316. In the exports of raw cotton there was an increase of \$36,159,841; in the value of provision exports, \$24,485,026 increase; in petroleum, \$4,096,984; in tobacco, raw and manufactured, \$2,436,611; in wood manufactures and timber, \$2,362,932; in iron and steel and their manufactures, \$1,892,243; in live animals, \$530,278. A comparison of the returns of 1880-'81 with those of 1870-'71 shows that over four fifths of the total increase, amounting to considerably more than 100 per cent, is made up of the increased exports of breadstuffs, provisions, and tallow, cotton, live animals, leather, and wood and manufactures thereof. The increase in the annual exports of these commodities in twenty years amounts to \$374,059,476; and four fifths of this collective increase is due to the increased exports of breadstuffs, provisions and tallow, and live animals alone. The products which have thus swelled the export trade are chiefly products of the Western and Northwestern States. The increase in the exportation of the products of that part of the country is traced by the Chief

Value of Imports and Exports of Merchandise from 1861 to 1881, inclusive—Specie Values.

YEAR ENDING JUNE 30.	Total exports.	Imports.	Excess of exports or imports.	Total imports and exports.
1861	\$219,553,833	\$289,310,542	Imports, \$69,756,709	\$508,864,375
1862	190,670,501	189,356,677	Exports, 1,313,824	380,027,178
1863	203,964,447	243,235,815	Imports, 39,371,363	447,300,262
1864	158,837,988	316,447,283	Imports, 157,609,295	475,285,271
1865	166,029,303	233,745,580	Imports, 72,716,277	404,774,883
Total five years.....	\$939,056,072	\$1,277,195,897	Imports, \$338,139,825	\$2,216,251,969
Average.....	187,811,214	255,439,179	Imports, 67,627,965	443,250,393
1866	348,859,522	434,812,066	Imports, 85,952,544	783,671,588
1867	294,506,141	395,761,096	Imports, 101,254,955	690,267,237
1868	281,952,899	357,486,440	Imports, 75,483,541	639,389,339
1869	286,117,697	417,506,379	Imports, 131,388,682	703,624,076
1870	392,771,768	435,953,408	Imports, 43,186,640	828,730,176
Total five years	\$1,604,208,027	\$2,041,474,389	Imports, \$437,266,262	\$3,645,682,416
Average.....	320,841,605	408,294,877	Imports, 87,458,272	729,136,483
1871	442,820,178	520,223,684	Imports, 77,403,506	963,043,862
1872	444,177,586	626,595,077	Imports, 182,417,491	1,070,772,663
1873	522,479,922	642,136,210	Imports, 119,656,288	1,164,616,132
1874	556,253,040	567,406,342	Exports, 18,776,698	1,153,689,382
1875	513,442,711	533,005,436	Imports, 19,562,725	1,046,448,147
Total five years.....	\$2,509,203,437	\$2,889,366,749	Imports, \$380,163,312	\$5,398,570,186
Average	501,840,687	577,873,349	Imports, 76,032,662	1,079,714,037
1876	540,384,671	460,741,190	Exports, 79,643,481	1,001,125,861
1877	602,475,220	451,323,126	Exports, 151,152,094	1,053,798,346
1878	694,865,766	437,051,532	Exports, 257,814,234	1,181,917,293
1879	710,439,441	445,777,775	Exports, 264,661,666	1,156,217,216
1880	835,638,658	667,954,746	Exports, 167,683,912	1,503,593,404
Total five years.....	\$3,383,303,756	\$2,462,843,369	Exports, \$920,955,387	\$5,846,652,125
Average	676,660,751	492,568,674	Exports, 184,191,077	1,169,380,425
1881	902,377,346	642,664,628	Exports, 259,712,718	1,545,041,974

of the Bureau of Statistics to the recent extension of railroads and the great reduction in the cost of railroad carriage from the West to the Atlantic sea-board. Of the total receipts of grain in 1880 at New York, Baltimore, Philadelphia, Boston, and Portland, amounting to 319,696,057 bushels, 76·97 per cent was brought by rail, and only 22·24 per cent by the Erie canal. The average freight-rates for transporting grain from Chicago to New York for the last three years compared with the average rates for 1870, 1871, and 1872, show a reduction in this charge of 9·8 cents on a bushel. The average reduction in the railroad transportation rates amounts to 14·4. The mean reduction in the cost of carriage between the two points is about 13 cents per bushel. This is equivalent to 11·7 per cent on the export price of wheat and 23·55 per cent on the export price of Indian corn in 1881. According to the researches of Joseph Nimmo, Jr., Chief of the Bureau of Statistics, the tonnage on twelve of the leading railway lines increased between 1873 and 1880 from 45,557,002 to 78,150,913 tons, or 71·5 per cent, while the freight receipts increased from \$112,004,648 to \$143,388,178, or only about 28 per cent. The average rate per ton per mile was reduced from 1·72 cent to 1·07 cent, a decrease of 39·5 per cent. The tonnage transported on the New York Central, Erie, and Pennsylvania Railroads was three times as great in 1880 as in 1868, while the average freight charges were 60 per cent less. Between 1870 and 1880

there was a reduction of 39·45 per cent in the freight charges of those roads, and of 32·51 per cent on the rates of the New York canals, while the decrease in the average prices of the prime necessities of life in the same period was only 12·32 per cent. The wheat exports have increased under these changed conditions from \$47,171,229 in 1870 to \$167,698,485 in 1881; the value of maize exported, from \$1,287,575 to \$50,702,669; of provisions, from \$29,175,539 to \$151,528,268; of live animals, from \$1,045,039 to \$16,412,398. The value of all the exports of agricultural products in 1881 amounted to \$729,650,016, an increase of \$43,688,925 over those of 1880. Their value constituted 82·55 per cent of the total exports of domestic merchandise. It was seven times the value of this class of exports in 1850, nearly thrice the value of such exports in 1860, and more than twice their value in 1870. The growth of the total export trade has been at about the same rate of progression. The ratio of agricultural products to the whole value of the exports does not deviate, in comparing the years 1830, 1840, 1850, 1860, 1870, and 1881, more than 3 per cent.

Of the total value of imports in the fiscal year 1881, aggregating \$642,664,628, the imports of sugar and molasses constituted 14·53 per cent, amounting to \$93,404,288; the value of the imports of coffee amounted to \$56,784,391, or 8·84 per cent of the total; of iron and steel and manufactures thereof, to \$46,439,747, or 7·23 per cent; of silk, raw and manufactured,

to \$42,944,965, or 6·68 per cent; of chemicals, drugs, dyes, and medicines, to \$36,590,473, or 5·69 per cent; of the imports of cotton manufactures, and cotton, to \$31,976,637, or 4·97 per cent. The total value of these seven classes, \$349,000,895, constituted 54·30 of the total imports of merchandise.

The excess of exports decreased in the last half of the calendar year, due mainly to the smaller supply of breadstuffs for exportation. The wheat crop, though only 400,000,000 bushels, against 500,000,000 in 1880, yielded about 3 per cent more to the farmers.

The total value of imports of merchandise entered for consumption in the United States amounted to \$650,618,999. The value of dutiable merchandise amounted to \$448,061,587·95; merchandise free of duty to \$202,557,411. The total amount of duties collected upon imports amounted to \$193,800,879, and constituted 43·25 per cent of the value of the dutiable merchandise entered for consumption. Of the total amount of duties collected on imports the duties on sugar and molasses amounted to \$47,984,032, or 24·79 per cent; the duties on wool and woolen manufactures to \$27,285,624, or 14·10 per cent; the duties on iron and steel and manufactures thereof to \$21,462,534, or 11·09 per cent; the duties on manufactures of silk to \$19,038,665, or 9·84 per cent; the duties on manufactures of cotton to \$10,825,115, or 5·59 per cent; the duties on flax and manufactures thereof to \$6,984,374·90, or 3·60 per cent. The duties collected on these six commodities and classes of commodities amounted to \$133,580,347, and constituted 69·01 per cent of the total duties collected on imports. There was collected at the port of New York \$136,211,127·38, or 70·28 per cent of the total import duties received during the year by the Government. The aggregate balance of trade in favor of the United States in the commerce of the year with those countries which received American exports in excess of the value of the imports from them, was \$441,675,687. The aggregate adverse balance in the commerce with those countries from which the United States imported merchandise to a greater amount than the value of the exports to them, was \$181,962,969. The countries which received American exports largely in excess of their imports into the United States, are the United Kingdom, France, Belgium, Netherlands, Germany, Russia, Spain, and Denmark. The countries the imports from which largely exceeded American exports taken by them, were Cuba, Brazil, India, China, Japan, Spanish possessions other than Cuba and Porto Rico, and the Dutch East Indies. The subjoined table gives the percentage of the total imports of the year furnished by each country, the percentage of the domestic exports taken by each, also the foreign exports, and the percentage of each one in the total import and export commerce of the United States, according to values:

COUNTRIES.	Per cent of im-ports.	Per cent of domes-tic ex-ports.	Per cent of foreign ex-ports.	Per cent of imports and exports.
Great Britain and Ireland.....	27·15	54·01	19·97	42·43
Franco.....	10·86	10·16	23·59	10·61
Germany.....	8·25	7·79	7·21	7·97
Dominion of Canada.....	5·86	3·87	20·07	4·89
Cuba.....	9·80	1·24	1·98	4·81
Brazil.....	8·21	1·03	·62	4·02
Belgium.....	1·96	4·03	3·49	3·17
Netherlands.....	·90	2·92	3·03	2·08
China.....	3·47	·62	...	1·80
Italy.....	1·81	1·02	·17	1·34
Mexico.....	1·30	1·04	10·69	1·26
British East Indies.....	2·80	·10	...	1·22
Spain.....	·92	1·42	·10	1·20
Japan.....	2·21	·16	·16	1·02
Russia on the Baltic and White Seas.....	·24	1·50	...	·96
British West Indies.....	·98	·92	1·40	·95
United States of Colombia.....	·93	·59	1·10	·74
Venezuela.....	1·08	·30	·85	·61
Minor Spanish possessions.....	1·43	·01	...	·60
Haiti.....	·74	·50	·63	·60
Dutch East Indies.....	1·18	·20	...	·53
British possessions in Australasia.....	·83	·75	·50	·57
Hawaiian Islands.....	·56	·30	·45	·54
Argentine Republic.....	·88	·25	·92	·52
Denmark.....	·06	·72	...	·44
Uruguay.....	·65	·17	·41	·37
Porto Rico.....	·60	·19	·28	·37
Hong-Kong.....	·37	·33	·01	·34
Portugal.....	·12	·49	...	·33
Central American states.....	·49	·18	·46	·31
Sweden and Norway.....	·15	·39	...	·28
British possessions in Africa.....	·26	·27	·41	·27
British Guiana.....	·88	·19	·22	·27
French West Indies.....	·38	·17	·19	·26
Russia on the Black Sea.....	·20	·29	...	·24
Austria.....	·22	·25	...	·24
Dutch West Indies.....	·40	·10	·10	·23
Chili.....	·23	·18	·09	·19
Gibraltar.....	...	·32	·43	·19
Newfoundland and Labrador.....	·06	·19	·09	·13
Countries in Africa not named.....	·14	·10	...	·12
San Domingo.....	·14	·10	·16	·11
Turkey in Asia.....	·14	·03	...	·08
Danish West Indies.....	·06	·08	·07	·07
Turkey in Africa.....	·07	·07	...	·07
British Honduras.....	·07	·05	·08	·06
Turkey in Europe.....	·04	·07	...	·06
Peru.....	·12	·01	·02	·06
French possessions in Africa.....	·07	·04	·01	·05
All other islands and ports.....	·09	·02	·02	·05
French possessions, all other.....	·06	·04	·23	05
Azores, Madeira, and Cape Verde Islands.....	·03	·06	·03	·05
Greece.....	·09	·02	...	·04
Dutch Guiana.....	·06	·03	·01	·04
All other countries in South America.....	·06	·01	·03	·03
Spanish possessions in Africa.....	·03	·02	·01	·02
Minor British possessions.....	·03	·01	...	·02
Miquelon, Langley, and St. Pierre Islands.....	...	·04	·11	·02
Liberia.....	·02	·02	·03	·02
Russia, Asiatic.....	·01	·02	·02	·02
Greenland, Iceland, and the Faroe Islands.....	·02	...	...	·01
All other countries.....	·02	·01	...	...
Total.....	100·00	100·00	100·00	100·00

The proportion of each of the principal sea-ports in the total export and import commerce of the year, as compared with 1879-'80, is shown in the table below, which gives the percentage of each port in the total merchandise trade each way. The gain of the minor ports not named is explained by the increased cotton shipments. An increase in the imports of one or two lake ports in October was due to shipments of Canadian grain, attracted by the spec-

ulative prices prevailing. The diminished percentage of New York is chiefly attributable to the same cause. The larger share of New Orleans in the export trade comes from its new business as a shipping port for grain :

PORTS.	EXPORTS.		IMPORTS.	
	1880-'81.	1879-'80.	1880-'81.	1879-'80.
	p. c.	p. c.	p. c.	p. c.
New York.....	45·12	46·98	67·77	68·86
New Orleans...	11·50	10·82	1·90	1·59
Baltimore.....	8·03	9·13	2·52	2·99
Boston.....	8·14	7·09	9·64	10·25
Philadelphia...	4·90	5·94	5·07	5·38
San Francisco...	3·89	3·87	5·91	5·27
All other ports.	18·42	16·17	7·19	5·66
Total.....	100·00	100·00	100·00	100·00

Of the total merchandise exports and imports of the year, 54 per cent, or \$842,631,927, passed through the port of New York. The navigation returns for the fiscal year 1880-'81 show that the decline of the American merchant marine still continues. Although the tonnage of vessels built increased from 157,409 tons in 1879-'80 to 280,459 tons in 1880-'81, the decay of vessels and losses by casualties was not made good by the increase in ship-building. On the 30th of June, 1881, the total tonnage of the country amounted to 4,057,734 tons, as against 4,068,035 tons at the close of the preceding fiscal year. The tonnage employed in the foreign trade of the United States decreased from 1,314,402 tons in 1880 to 1,297,035 tons in 1881, but the tonnage employed in the coast-wise trade of the United States, embracing tonnage employed between American ports on the sea-board, on the Mississippi River and its tributaries, and on the Great Lakes, increased from 2,637,886 tons in 1880 to 2,646,011 tons in 1881. The foreign commerce of the United States has nearly doubled since 1866, but the increase in the carrying trade has fallen almost entirely to vessels of foreign nationality. The total tonnage of foreign vessels entered at sea-ports of the United States increased from 3,117,034 tons in 1856 to 12,711,392 tons in 1881, an increase of 308 per cent; whereas the American tonnage entered for foreign ports increased from 1,891,453 tons in 1856 to 2,919,149 tons in 1881, an increase of only 54 per cent. Of the total foreign tonnage entered at ports of the United States during the year ended June 30, 1881, amounting, as above stated, to 12,711,692 tons, the British tonnage amounted to 8,457,957 tons, or 66·5 per cent; the German tonnage to 1,112,566 tons; the Norwegian and Swedish to 1,035,078 tons; the Italian to 658,861 tons; the French to 304,809 tons; the Spanish to 277,163 tons; and the tonnage of all other nationalities to 805,121 tons.

The annual values of the total imports and exports of the United States carried in American and those carried in foreign vessels, and the percentage of American shipping in the total carrying trade, are given for the last thirty years in the following table :

FISCAL YEAR.	Carried in United States ships.	Carried in foreign ships.	Percentage carried in U. S. ships.
1852.....	\$294,735,404	\$123,219,817	70·5
1853.....	346,717,127	152,237,677	69·5
1854.....	406,698,589	170,591,875	70·5
1855.....	405,485,462	181,189,904	75·6
1856.....	432,268,274	159,336,576	75·2
1857.....	510,331,027	213,519,796	70·5
1858.....	447,191,304	160,066,267	73·7
1859.....	465,741,381	229,816,211	66·9
1860.....	507,247,757	255,040,793	66·5
1861.....	381,516,788	203,478,278	65·2
1862.....	217,695,418	218,015,296	50·0
1863.....	241,872,471	343,056,081	41·4
1864.....	184,061,486	485,793,548	27·5
1865.....	167,402,872	437,010,124	27·7
1866.....	325,711,861	685,226,691	32·2
1867.....	296,998,387	580,022,004	33·9
1868.....	297,981,573	550,546,074	35·1
1869.....	289,956,772	586,492,012	33·1
1870.....	352,969,401	638,927,488	35·6
1871.....	353,664,172	755,822,576	31·8
1872.....	345,331,101	889,346,362	29·1
1873.....	346,306,592	966,722,651	26·4
1874.....	350,451,994	939,206,106	27·2
1875.....	314,257,792	884,788,517	26·2
1876.....	311,076,171	818,354,987	27·7
1877.....	316,660,281	859,920,536	26·9
1878.....	313,050,906	876,991,129	26·3
1879.....	272,015,692	911,269,232	23·0
1880.....	280,005,846	1,309,466,596	17·6
1881.....	268,080,603	1,378,556,017	16·2

The American cotton-crop of the year 1880-'81, as estimated by the "Commercial and Financial Chronicle," aggregated 6,589,329 bales. The largest crop picked in slavery times was in the second year before secession. This was first equalled by the crop of 1878-'79. The next year's crop, counted in bales, was 13½ per cent greater, and last year 14½ per cent greater than that. The average crop of the last three years exceeds the average of the three prolific years preceding the civil war by nearly one third. Below is reprinted a table giving every year's cotton-crop since the record was first kept, completed to date :

YEARS.	Bales.	YEARS.	Bales.
1880-'81.....	6,589,329	1854-'55.....	2,932,389
1879-'80.....	5,757,397	1853-'54.....	3,035,027
1878-'79.....	5,073,531	1852-'53.....	3,352,582
1877-'78.....	4,811,265	1851-'52.....	3,090,029
1876-'77.....	4,485,423	1850-'51.....	2,415,257
1875-'76.....	4,669,288	1849-'50.....	2,171,706
1874-'75.....	3,832,991	1848-'49.....	2,805,596
1873-'74.....	4,170,888	1847-'48.....	2,424,113
1872-'73.....	3,930,508	1846-'47.....	1,860,479
1871-'72.....	3,974,351	1845-'46.....	2,170,537
1870-'71.....	4,352,317	1844-'45.....	2,484,662
1869-'70.....	3,154,946	1843-'44.....	2,108,579
1868-'69.....	2,439,039	1842-'43.....	2,394,203
1867-'68.....	2,498,895	1841-'42.....	1,668,676
1866-'67.....	2,059,271	1840-'41.....	1,639,353
1865-'66.....	2,228,987	1839-'40.....	2,181,749
1861-'65.....	No rec'd	1838-'39.....	1,863,403
1860-'61.....	3,828,086	1837-'38.....	1,804,797
1859-'60.....	4,823,770	1836-'37.....	1,425,575
1858-'59.....	3,994,481	1835-'36.....	1,360,725
1857-'58.....	3,238,902	1834-'35.....	1,254,328
1856-'57.....	3,056,519	1833-'34.....	1,205,394
1855-'56.....	3,645,845		

The average gross weight of the bale in 1881 was 485·88, or 4·33 pounds more than the average of the preceding year, indicating an actual increase in the total weight of the crop of 15·48 per cent. The total weight of the last eight crops and the average weight of the bales each year were as follows :

SEASON OF	Weight of crop in pounds,	Average weight of bales.
1880-'81	3,201,546,730	485·88
1879-'80	2,772,448,480	481·55
1878-'79	2,400,205,525	473·08
1877-'78	2,309,908,907	450·10
1876-'77	2,100,465,086	468·28
1875-'76	2,201,410,024	471·46
1874-'75	1,786,984,765	468·00
1873-'74	1,956,742,297	469·00

The crop of 1880-'81 was matured and picked amid heavy rains, and packed in a damp and dirty condition. The waste was consequently exceptionally great, while the preceding crop had been remarkably clean and superior in spinning qualities. The crop of Sea-Island cotton in 1880-'81 was 36,442 bales, against 26,704 bales in 1879-'80, 22,963 in 1878-'79, and 24,825 in 1877-'78. The largest previous crop was 32,228 bales in 1866-'67. American consumption of Sea-Island cotton for the year was 11,270 bales, or 1,881 more than in 1879-'80.

The extension of cotton cultivation falls in with and responds to an expansion of the world's demand, which has been progressive since the commencement of a new era of activity in the summer of 1879. The revival commenced with the return of prosperity in the United States. European consumption has increased over one million bales in two years, as seen from the following statement:

IN BALES OF 400 LBS.	Great Britain.	Continent.	Total.
1878-'79	2,843,000	2,596,000	5,439,000
1879-'80	3,350,000	2,725,000	6,075,000
1880-'81	3,572,000	2,956,000	6,528,000

The increase in the consumption of Great Britain over that of 1879-'80 was $7\frac{5}{8}$ per cent, in that of the Continent $8\frac{1}{2}$ per cent; but $2\frac{1}{4}$ per cent must be deducted as representing increased waste in the crop, leaving the actual increase in European consumption $5\frac{1}{4}$ per cent. Ellison estimates the requirements of Europe for the year commencing October 1, 1881, at 6,708,000 bales of 400 pounds, of which 1,960,000 bales may be expected to come from India, Egypt, and countries of smaller production, and 4,748,000 bales, or 4,165,000 bales of 456 pounds, from the United States. To supply this and furnish 2,050,000 bales for American consumption, a crop of 6,215,000 bales in 1881-'82 would be sufficient.

The exports of American cotton to foreign ports, during the year ending September 1st, were 4,589,075 bales; the overland shipments to Canada, 22,898 bales. The total exports of raw cotton to foreign ports for the last six years were, 4,596,279 bales in the crop year 1881; 3,865,621 bales in 1880; 3,467,565 in 1879; 3,346,640 in 1878; 3,049,497 in 1877; and 3,259,994 in 1876.

The takings of American mills from the crop of 1880-'81 were 1,891,804, and the total consumption is estimated as high as 1,915,000

bales. The takings of the Northern and Southern mills, and the estimated total consumption in the United States for a period of years, were as follows:

CROP YEAR.	Northern takings.	Southern takings.	Total takings.	Estimated consumption.
1881.....	1,686,804	205,000	1,891,804	1,915,000
1880.....	1,624,805	179,000	1,803,805	1,760,000
1879.....	1,416,960	152,000	1,568,960	1,625,000
1878.....	1,398,298	148,000	1,546,298	1,530,000
1877.....	1,288,418	147,000	1,435,418	1,435,000
1876.....	1,211,598	145,000	1,356,598	1,310,000

The state of the markets was favorable to American manufacturers. The domestic demand was active enough to keep every spindle going. Prices kept up well, and afforded a good margin of profit. A long drought diminished the water-power in the North, reducing the productive capacity 12 or 15 per cent for about four months, but there was enough to work up the stock of material into the heavy drills and sheetings which were in demand. The addition of new spindles is estimated at 375,000, making the total number in the country at the close of the year 11,875,000. A considerable substitution of new spindles for old ones further increased the capacity for the production of yarn. The price of printed cloths was $3\frac{7}{8}$ cents at the commencement of the crop year, ranged up to $4\frac{3}{8}$ cents in the winter, standing above 4 cents until March, and between that and $3\frac{7}{8}$ cents most of the time afterward, and closed at $3\frac{7}{8}$ cents a yard at the end of the year. Standard sheetings were quoted at $7\frac{1}{2}$ cents in the opening months, $8\frac{1}{2}$ cents in the winter and spring, 8 cents in the early summer, and $8\frac{1}{2}$ cents at the close of the year. Prices thus ruled lower than the figures to which they were pushed by speculation in the preceding season. Trade was active the year round, without any dull interval. The prices of material were lower than in the previous season, but the difference was partly offset by the additional wastage. Low middling uplands commenced at $11\frac{1}{2}$ cents per pound in September, went down to $10\frac{9}{16}$ cents in November, recovered to $11\frac{9}{16}$ cents in December, stood above 11 cents till March, fell off to $9\frac{7}{8}$ cents in May, and advanced again to $11\frac{7}{16}$ at the year's close. The higher price of wages was an element of cost which must be taken account of in estimating the results of the year's business. An estimate of the average profit has been made by the editor of the "Commercial and Financial Chronicle." Those managers who have bought their cotton at favorable times, and conduct their mills most economically, may have realized two or three times the estimated rate of profit. Assuming the cost of cotton for standard sheetings to have been 12 cents a pound, the waste 2·26 cents, and the cost of manufacture and sale 6·50 cents, the cost of the product per pound would be 20·76 cents, or 7·27 cents per yard, which at an average selling price of 8·50 cents per yard

would yield a profit per yard of 1·23, or 3·52 cents on the pound of cotton. Counting the cost of material for print-cloths at 11·25 cents a pound, the waste 2·30 cents, and the cost of making and marketing 12 cents, the cost of the goods would be 25·55 cents a pound, or 3·65 cents a yard on delivery; at 4 cents a yard selling price there would remain a profit of ·35 cents a yard, or 2·45 cents a pound.

An increase in the exports of cotton goods in 1880-'81, when the home demand was suffi-

cient to exhaust the stocks and keep all the mills busy, is a gratifying indication that improvements in manufacturing facilities and the acuteness of domestic competition are approaching the point where American manufacturers will be disposed to contest the neutral markets with Great Britain. The lower prices of cotton are favorable to the export movement. The values and quantities of cotton manufactures exported in the last four fiscal years were as follows :

EXPORTS OF COTTON GOODS.	1881.	1880.	1879.	1878.
Colored goods, yards.	68,184,298	37,758,166	45,116,058	37,765,318
" " value.....	\$4,933,313	\$2,956,760	\$3,209,285	\$2,959,910
Uncolored goods, yards.....	80,399,154	68,821,567	84,081,319	88,528,192
" " value.....	\$6,624,374	\$5,834,541	\$6,283,181	\$7,053,463
Other manufactures of goods, value.....	\$1,963,601	\$1,190,117	\$1,356,534	\$1,422,287
Total cotton manufactures exported, value	\$13,571,287	\$9,981,418	\$10,853,950	\$11,435,660

There were 2,133 national banks doing business on November 1, 1881, a larger number than in any previous year since the passage of the banking act in 1863. The number of banks organized during the year was 86, a larger number than in any previous year. The number of banks which went out of business during the year was 26, having an aggregate capital of \$2,020,000 and a circulation of \$1,245,530. The capital of the 86 newly started banks aggregates \$9,651,050; the notes issued to them, \$5,233,580. The total number of banks which have been organized since the introduction of the system is 2,581. The number which have voluntarily gone into liquidation is 340; the number which have been placed in the hands of receivers, 86. The insolvent banks have paid \$18,561,698 in dividends to creditors out of \$25,966,602 of proved claims. The annual loss is therefore about \$346,000 on \$450,000,000 of average capital, and \$800,000,000 of deposits. The capital of the 2,115 national banks in operation on June 30, 1881, was \$460,227,835, not including the surplus, which amounted to about \$126,000,000. The total capital of all the State banks, savings-banks, and private bankers, aggregated \$210,738,203, or but little more than a third of the combined capital and surplus of the national banks. The number of private bankers doing business in sixteen of the principal cities of the Union is 717; their aggregate capital, \$58,534,300; deposits, \$89,996,545; reserve invested in United States bonds, \$12,370,012. Private bankers outside of these cities with over \$10,000 capital, to the number of 2,255 in 31 States and Territories, have an aggregate capital of \$34,169,435, and deposits to the amount of \$148,178,652. Private bankers in the remaining States and Territories, to the number of 66, have \$620,120 aggregate capital, and \$3,670,357 deposits. Massachusetts and Maryland (outside of the cities of Boston and Baltimore), Maine, North Carolina, New Hampshire, New Jersey, Delaware, and Vermont, have but 27 private banking houses together. In New

York city there are 508, in Philadelphia 52, in Boston 47, in Chicago 24, in Baltimore 19.

The following table exhibits the amount of loans, capital, surplus, net deposits, specie and paper money in the national banks in New York city, in the other reserve cities, in the States and Territories, on October 1, 1881 :

ASSETS AND LIABILITIES.	New York city, 48 banks.	Other reserve cities, 189 banks.	States and Territories, 1,895 banks.
Loans.....	\$246,757,659	\$346,221,151	\$576,043,494
Capital.....	51,150,000	119,799,830	292,872,155
Surplus.....	19,947,316	34,162,895	74,030,407
Net deposits.....	268,769,373	335,660,226	507,200,770
Specie.....	50,627,365	34,535,367	27,509,821
Legal tenders and U. S. certificates..	10,898,371	21,899,231	27,093,002

The loans of the banks on October 1st were \$1,169,022,304, which is an increase of \$132,000,000 over the corresponding date in last year. The total individual and bank deposits, not deducting the amount due from banks and the clearing-house exchanges, have increased \$225,725,496, amounting to the unprecedented sum of \$1,381,852,887. The rate of the total loans to capital, surplus, and net deposits was then 68·9 per cent; in 1880 it was 67·3 per cent, and in 1879 75·3 per cent. The proportion of cash to net deposits was 15·5 per cent on October 1, 1881, and for the corresponding dates in 1880 and 1879 it was 17·9 and 18 per cent.

The bonds held by the banks to guarantee their circulation are now principally 3½ and 4 per cents, there being about \$241,000,000 of the former, and \$92,000,000 of the latter.

The national banks, with the exception of those of New York city, have been steadily accumulating a gold reserve since the date of resumption. The specie reserve held by the New York banks on the 1st of January, 1879, was \$18,161,092; by the other banks of the country, \$23,338,665; together, \$41,499,757. By the end of the year the New York banks had increased their reserve to about \$50,000,000, and the other banks to about \$30,000,000. At the

beginning of 1881 the New York banks held \$55,221,200, and the banks of the rest of the country \$51,650,269. In March the New York reserves had fallen to \$51,000,000, in May they had increased again to \$65,000,000, and on June 30th to \$67,393,400, falling off afterward to \$51,000,000 in October. The reserves of the other banks of the country increased progressively to \$53,500,000 in March, \$57,500,000 in the first week of May, \$61,245,000 on June 30th, and \$63,000,000 in October.

The Comptroller of the Currency states in his report that he has been unable to obtain any evidence showing that the action of the banks in depositing legal-tender notes and withdrawing bonds pending the action of Congress on the funding bill, was concerted in order to derange the money market. Such a course, he says, would dangerously affect the value of the securities held by the banks against call loans. The banks of New York city had loaned out \$97,000,000, and all the banks throughout the country \$196,000,000 on demand, secured by collaterals which would be seriously depressed in value in a money panic.

The number of national banks which deposited legal-tender notes for the purpose of obtaining possession of their bonds in anticipation of the passage of this bill was one hundred and forty-one. These banks were located in twenty-four States, and the amount of legal-tender notes deposited by them was \$18,764,434. Only about one third of the bonds which were thus released were subsequently redeposited, and for some months thereafter the total amount of bonds redeposited by the one hundred and forty-one banks which reduced their circulation was less than \$7,000,000.

From an investigation made by Comptroller Knox, it appears that the financial settlements made by checks and bills of credit through the banks of New York amount to about three fifths of the business transacted by the aid of such instruments throughout the United States. The clearing-house settlements for the year ending October 1st aggregated about \$48,000,000,000. The total financial transactions of the country effected by instruments of credit would be, therefore, some \$30,000,000,000 for the year. That portion of the total payments which are due to fictitious operations on the Stock Exchange should be subtracted in order to arrive at the volume of the legitimate business of the country indicated by the bank exchange. About 5 per cent of the total transactions, it is found, are liquidated in money, and 95 per cent are discharged by means of checks, drafts, and other instruments of the kind.

From the date of resumption to November 1, 1881, the imports of gold in excess of exports amounted to \$197,434,114, and the estimated gold production of the country for the same period was \$104,150,000. The increment from both sources for the year ending November 1st was \$114,749,390. Silver dollars are

coined at the rate of about \$2,300,000 a month, the total coinage for the year ending November 1st having been \$27,824,955. The total amount of coin and currency in the United States at the date of the Comptroller's report, compared with the amount a year previous, was as follows:

	November 1, 1880.	November 1, 1881.
Gold coin.....	\$453,882,692	\$562,568,971
Silver coin.....	158,320,911	186,037,365
Legal-tender notes.....	346,681,016	346,681,016
National-bank notes.....	343,834,107	360,344,250
Totals.....	\$1,302,718,726	\$1,455,631,602

The amount of legal-tender notes in circulation has remained the same since May 31, 1878, in accordance with law. The additional issue of national-bank notes during the year was \$16,510,143. The increase of bank-notes, gold coin, and silver coin, amounted to \$152,912,876. On November 1st there was held in the Treasury \$167,781,909 of gold, against \$133,679,349 at the same date in 1880; \$66,576,378 in standard silver dollars, against \$47,156,588 in 1880; \$3,424,575 in silver bullion, against \$6,185,000; \$25,984,687 in fractional silver currency, against \$24,635,561; \$22,774,830 in paper currency, against \$18,221,826. The national banks held \$107,222,169 of gold coin and certificates, against \$102,851,032 in 1880; \$7,112,567 of silver dollars, against \$6,495,477; \$77,630,917 of currency, against \$25,828,794. The State banks held \$19,901,491 of gold, against \$17,102,130. In the savings-banks there was \$11,782,243 of currency, against \$17,072,680 in 1880 at the same date. The total amount of coin and currency in the Treasury and the banks on November 1, 1881, was \$537,583,083, as compared with \$485,668,362 on the same date in 1880. Deducting the amount thus retained from the total amount in the country, the amount of money in the pockets of the people on November 1, 1881, was \$918,048,519, against \$817,050,364 in 1880.

The total amount of silver dollars coined up to November 1, 1881, was \$100,672,705. Of the \$66,576,378 in the Treasury, \$58,838,769 was represented by certificates in the hands of the people and the banks, leaving only \$7,737,609 actually belonging to the Treasury. Of the \$100,672,705 coined, therefore, \$34,096,327 were circulating in the form of coin and \$58,838,769 in the form of certificates. The remainder of the silver, \$85,364,660, is in subsidiary and trade dollars and bullion, of which \$29,409,262 is in the Treasury, and \$55,955,398 is in use in place of the previous fractional paper currency, which at its highest point, on March 23, 1874, amounted to \$49,566,760.

The product of the precious metals in the United States reached its highest point in 1877, when the mines of Nevada alone yielded \$51,580,290—within a few hundred thousand dollars of the total product of all the States and Territories in 1870. Since that time there has

been a progressive decline in Nevada, where the product sank to \$15,031,621 in 1880, but a large increase in Colorado and Arizona. Utah has fallen off slightly, but Dakota more than makes up the deficiency, while the production of California remains at about the same figure which it has now maintained for some years.

The fluctuations in the product of the various States and Territories since 1877, the year of the largest production, may be seen from the following table, made up from the annual reports of Wells, Fargo & Co.:

STATES AND TERRITORIES.	1877.	1878.	1879.	1880.
California....	\$18,174,716	\$18,920,461	\$18,190,973	\$18,276,166
Nevada.....	51,580,280	35,181,949	21,997,714	15,031,621
Oregon.....	1,191,997	1,213,724	1,087,961	1,059,641
Washington..	92,226	73,311	85,336	105,164
Idaho.....	1,832,495	1,868,122	2,091,300	1,894,747
Montana.....	2,644,912	3,763,640	3,629,020	3,822,379
Utah.....	8,113,755	6,046,613	5,468,579	6,450,953
Colorado.....	7,913,547	6,232,747	14,418,515	21,254,959
New Mexico..	379,010	453,813	622,300	711,300
Arizona....	2,383,622	2,287,983	1,942,408	4,123,081
Dakota.....	1,500,000	2,215,804	3,208,987	4,472,471
Mexico.....	1,432,992	1,594,993	1,653,871	2,090,557
B. Columbia.	1,177,160	1,233,460	976,742	844,867
Totals....	\$98,421,754	\$81,154,622	\$75,349,501	\$80,167,936

The decline in the product of Nevada, which amounts to \$36,548,679 as compared with 1877, is mainly due to the decreased product of the Comstock, which in 1880 yielded but \$5,312,592 as against \$37,911,710 in 1877, a falling off of \$32,509,118; but some of the other districts have also declined, as for instance the Eureka, which yielded \$4,649,025 in 1880 as against \$5,840,261 in 1879.

The production of gold in the United States in the fiscal year 1881 is estimated, by Director of the Mint Burchard, at \$36,500,000; that of silver, \$42,100,000. As the result of the inquiry into the consumption of the precious metals in the arts, the total use reported by manufacturers for the year 1881 was \$10,000,000 of gold and \$3,500,000 of silver; \$3,300,000 of the gold consumed was reported as United States coin remelted. The Assay Office in New York delivered to manufacturers \$5,700,000 worth of gold bars and \$5,100,000 in silver during the year. The consumption of gold and silver in arts and manufactures, if all reported, would likely, therefore, amount to at least \$11,000,000 in gold and \$6,000,000 in silver.

The total imports of gold during the year ending June 30th were \$100,031,259, against \$80,758,396 in 1880. Of this, \$7,577,422 was in American coin, against \$18,207,559 in 1880; \$61,454,918 was in foreign coin, and \$30,998,919 in bars, bullion, and dust. The gold exports were \$2,565,132. The silver imports were \$10,544,238, against \$12,275,914 in 1880. The silver exports were \$16,841,715, against \$13,503,894 in 1880. There was a net importation of gold of \$97,466,127, against \$77,119,371 in 1880; and a net exportation of silver of \$6,297,477, against \$1,227,980 the year before.

The net imports of specie amounted to \$91,168,650, against \$75,891,691 in the fiscal year 1880.

During the first six months of the year the stock and security markets exhibited an activity almost unparalleled. A veritable struggle among buyers for every investment of ascertainable value had given to the market a constant character of intense pressure and eager excitement, such as usually marks the sharp and brief crises in the game of stock speculation when operators are threatened with checkmate. The unprecedented production of the country for the two years previous, and the profitable disposal of a large surplus abroad, were the cause of the strong demand for investments. The earnings and profits of the people were so great an aggregate that the demand was in constant excess of the supply, and vast sums were invested at rates of interest 2 or 3 per cent lower than any which had ever before been accepted as permanent in America. The simultaneous redundancy of capital in London and Paris sustained the investment market; though the placing of great blocks of American stocks and bonds in the European market was no longer possible, for of dubious stocks the Europeans had grown wary, and on valuable investments the returns exceed but little the average interest in their own countries. The discrepancy was quite balanced by their comparative unfamiliarity with the conditions of the enterprises offered, and the certainty of occasional legal disputes and uncertainty of their issue.

As at all times when money is procurable, there were large fictitious dealings on the Stock Exchange. The ascending prices were discounted by speculators. The class who are in the habit of venturing money on their guesses as to the tendency of the market, were more numerous and better supplied with cash than usual. Yet the vast overplus of capital seeking investment, and the steady upward impulse of prices given by genuine competition, left less opportunity for the chancing of heavy wagers and for the finesse and strategy of the stock-gambling game than is afforded by a fluctuating market. The calling in and changing of United States bonds in the first half of the year flooded the market with money, and displaced a large amount of capital. This disturbance greatly augmented the demand, which without it would have been enormous, for permanent investments in property which does not call for the personal enterprise and supervision of the investor. The supply of desirable shares and securities, though outstripped by the demand, streamed into the market in an unprecedented volume. Companies which had years before ceased to divide any profits now began for the first time to return dividends, and their stock rose rapidly in the market. This class of scrip swelled the aggregate values in request with all the effect of a fresh supply. The fresh issues were hardly inferior in mag-

nitude. The season's railroad construction was progressing at the rate of thirty to fifty miles of track per diem, for which stocks and bonds were being issued at the daily rate of from \$1,200,000 to \$2,000,000. The capital actually absorbed in the work must have approached \$20,000 a mile. The promoters of railroad enterprise took advantage of the over-supply of the money market to obtain subscriptions for railroad construction a year and two years in advance. Scrip dividends to an immense aggregate amount were declared by established companies and newly amalgamated corporations, ostensibly based upon improvements made in the corporate property and additions made to it by the purchase of other properties or fresh extensions of their own and paid for out of recent earnings. The stock thus distributed was fed in large quantities into the market. Yet the whole vast influx of new and rehabilitated stocks and bonds did not stay the overflow of the money market, brought about by the national prosperity and by the extraordinary financial operations of the Government, the success of which is attributable to the same general cause. The prices of stocks rose higher and higher, and the market showed no signs of relapsing again to a lower level, although many capitalists refrained from purchasing, placing their money in the trust companies at 2 or 2½ per cent interest, in expectation of a decline. The calculations of the speculators were all at fault. The most venturesome sold out repeatedly, thinking the flood-mark was reached, only to buy in again at an advance, upon being convinced of the continued upward drift.

One incident occurred in February to disturb the smooth surface of the swelling tide of prosperity. This was the sudden and simultaneous action of the national bankers of New York city and of a number in other parts of the country in withdrawing gold and United States currency from circulation to deposit with the Government for the purpose of redeeming their bank currency. Proceeding thus in concert while the obnoxious 3 per cent funding act was awaiting the final action of the House of Representatives and the approval of the President, they brought Wall Street to the extreme verge of a money panic. The tone of the money market was only partially restored by an order of the Secretary of the Treasury for the redemption of \$25,000,000 of bonds on presentation. These bonds did not come in fast enough to afford much material relief, but the moral effect of the order was to allay anxiety and prevent serious embarrassments. About \$5,500,000 were purchased, and money flowed in from other sources after a week of severe strain. There were about \$18,000,000 of gold and legal tenders deposited by the national banks throughout the country, principally those of New York, to enable them to withdraw their bonds. The rate of money on call loans rose on the 25th to 1½ per cent a day commission in addition to the legal rates, from which point

it receded in five or six days to the normal low rates. Stocks fell heavily on the 25th, but recovered in a few days. From the time of this financial spasm until Secretary Windom formulated his refunding plan in April and the great Treasury transactions commenced, although an undertone of hope and confidence prevailed, the monetary situation changed day by day, with a tendency to improve, however. The real strength of the situation could not be brought out while money was still only moderately abundant and occasionally quite stringent. But when the Treasury began to pour out its accumulations, the tidal rise in values set in.

In midsummer various causes combined to produce a sharp decline in stocks. The superabundance of money was succeeded by dearth. In addition to the usual flow to the rural districts for harvesting purposes, great sums were drained to the West to maintain gigantic speculations in grain and provisions. The shooting of President Garfield, and the anxious doubts of his recovery, could not but strongly affect the most sensitive part of the commercial system. Exaggerated reports of failures in crops had a still more depressing influence on the stock market. A bitter war between the great trunk lines was equally potent with the last cause to disturb confidence in the values of railroad properties. Some of the most powerful operators in Wall Street were actively working at this time to bring prices down to a lower level. For three or four months the surplus in the New York banks oscillated about the 25 per cent minimum required by law, and several times sank below it. Money which had lately been freely supplied at from 2 to 4 per cent on call, was so scarce that high daily commissions were charged in times of greatest demand. The drain of money to the West continued until October. Upon the cessation of large disbursements by the Treasury, a great quantity of currency was abstracted from the circulation and accumulated on the hands of the Government. The only relief was given by large importations of gold, stimulated by the stringency of the money market. In October, at the critical moment, the immediate pressure was relieved by the action of the Treasury Department in redeeming a large amount of bonds before maturity. The inland requirements began at this time to abate, so that an easy money market again prevailed.

At the same time the tone of the stock market improved and prices began again to ascend. The underbidding of the through lines for the summer business was seen to have still left a profit. The shortage of crops was found to have been overestimated. The impression prevailed that the deficiency would not seriously harm the general prosperity, and would not have the effect of diminishing railroad earnings. The political fears and forebodings all vanished after the inauguration of President Arthur.

The Western Union Telegraph Company in the beginning of February took possession of

the property of the American Union, upon the dissolution of an injunction to prevent the consolidation of the two corporations. The Western Union stock was increased to \$80,000,000, \$22,473,500 of the \$38,000,000 increase being assigned the American Union stockholders, and \$15,526,500 being distributed as a dividend among the Western Union stockholders. •

A syndicate, headed by Henry Villard, was organized for the purpose of acquiring a controlling interest in the Northern Pacific Railroad, in order to connect that line with the roads of the Oregon Railway and Navigation Company, and prevent its extension into Washington and Oregon as a competitive establishment. The passage of a law by the Legislature of Tennessee to pay the whole of its debt eventually while reducing the interest one half, was the signal for active speculation in the State bonds, which were in default, and had fallen to very low prices. In the spring, the Gowen project for bridging over the financial difficulties of the Reading Company, by issuing deferred bonds to meet the floating liabilities, was adjudged by the United States Circuit Court illegal and contrary to the charter. Mr. Gowen was finally supplanted in the management about the same time through the efforts of the Messrs. McCalmont. The affairs of the elevated railroad companies of New York were in an embarrassed condition, and the lessee company, being unable to meet the fixed charges, prayed for a remission of taxes. The Attorney-General threatened to dissolve the company by authority of the State; but refrained, and the concern was placed in the hands of a receiver. Toward the close of the year a consolidation of the three companies was effected.

The condition of the markets in July was particularly favorable to speculative schemes. The intermittent and frequently stringent state of the money market and the oversold stock market, which had been depleted of its usual stock of floating securities by the purchases of investors, enabled cliques of operators to control the supply of money or of special lines of stock; while the above-described elements of doubt, amid the general flourishing outlook, permitted them to play upon the hopes or the fears of the speculating and investing public. A general and heavy decline in all but the highest class of securities, which initiated the speculative phase, was precipitated by the active co-operation of the great manipulators of values. A curious episode of this period was a slyly effected corner in Hannibal and St. Joseph common stock, a third-class property, by which some of the magnates of the market were forced to pay many times the value of the stock for which they stood engaged. The war between the trunk lines, which was waged by the competitive lowering of passenger and freight rates between Eastern and Western termini, was supposed to have had for its motive the desire on the part of the manager of the New York Central and its continuations, Will-

iam H. Vanderbilt, to obtain the revocation of the conditions of the pool entered into between the through lines, which fix the charges for freight on the roads terminating at Baltimore and Philadelphia too low to afford a maximum of business and profit to the New York Central road, and which draw to those cities a portion of the foreign commerce which would go to New York under the desired rearrangement of the covenanted tariff. The competition of the water-route was sufficient, however, to warrant the reduction of freight rates, great as it was, if it did not first prompt it; for the reports of the roads show an actual increase of the net profits over the previous year. The New York Central company demonstrated its remarkable economical strength, but did not accomplish the object of compelling the other lines to enter into a new compact. The contest could not be continued when, toward the time for closing the canals, business so increased as to tax all the roads to their full capacity. About the end of October one road after the other set up the old schedule of prices, and all had more custom than they could attend to.

At the rates ruling in the early part of the year for the new Government bonds, the interest received by investors is not above 3 per cent per annum. Of railroad bonds, ten of the larger loans of the highest standing netted from $4\frac{1}{2}$ down to $3\frac{1}{2}$ per cent annual interest, and averaged only 4.20 per cent, calculated on the prices ruling in April, with deduction of the loss of premium on maturity. The majority of bonds, however, gave better returns, the average net rate of interest on all classes standing at or above par being about $5\frac{1}{4}$ per cent, including those of many enterprises whose future was not yet assured. States and cities whose credit was sound, issued no new bonds bearing a higher rate of interest than 4 per cent, and at that rate they usually commanded a premium. The rise in the selling value of forty-seven prominent stocks of the par value of \$964,000,000 was between July 1, 1879, and July 1, 1881, from \$643,000,000 to \$1,166,000,000, or over 81 per cent in two years.

Railroad enterprises, as usual, engrossed the main bulk of the capital offered for investment. Railroads are the most important of the tools which enable the agricultural resources of the country to be utilized with commercial advantage. As the development of the country is now mainly in this direction, and as the foreign demand for agricultural products enables every newly opened district of rich land to be tilled with profit, railroads yield surer and larger returns than almost any other species of property into which accumulated savings can be placed. At the beginning of the year there were upward of \$5,000,000,000 of railroad securities of all sorts outstanding. The favorable reports of railroad business furnished good grounds for the growing confidence in this species of property and the strong demand

for railroad securities, which began early in the year and supported an unprecedented expansion of the total volume of values. Severe snow blockades, a large falling off of the corn and wheat traffic compared with 1880, and freshets in the early spring, coupled with the critical condition of the money market, caused fluctuations in the first quarter of the year. When it was found that the railroads were taking in more money than the year before, that passenger traffic and miscellaneous freight showed a remarkable increase, the confidence in the future became general. For the first three months the gross earnings upon a mileage 15 per cent greater were over 9 per cent in excess of those of the same part of 1880. In April the receipts of wheat and corn began to exceed those of the previous year, and the railroads reported 25 per cent greater earnings than in the April of 1880.

Between the 1st of January and the 1st of September the total amount of stocks and bonds for the construction of new lines or branches of railroad or of telegraphs amounted to \$390,312,200. The cash payments undertaken by the subscribers, extending through

the year and through a good part of 1882 in the cases of some of the heavier loans, amount in all to \$234,683,000. Besides these issues placed upon the market there were others, amounting to at least 15 per cent in addition, which were subscribed privately by large companies for the construction of tributary lines. For improvements, purchase of other roads, and on consolidations, \$243,684,200 of stocks and bonds were issued, calling for an estimated amount of \$155,194,200 in cash. The aggregate cash requirements of the new issues for the first eight months of the year were thus \$389,877,200, covering the remainder of the season and a portion of the next. There were issued in addition, in the form of stock dividends or otherwise, \$26,933,700 of stocks and bonds which called for no cash payments. The grand total of the financial adventures in extending and improving the means of intercommunication taken up in the market during the first eight months of the year amounted to \$389,877,200 in engagements for cash payments, and \$660,930,100 in certificates of indebtedness and ownership given therefor, divided as follows:

ISSUED TO SEPTEMBER 1, 1881.	Mortgage bonds.	Income bonds.	Stock.
For construction of new road.....	\$221,183,000	\$25,759,200	\$143,370,000
For improvements, for purchase of other roads, or on consolidation	75,169,000	21,500,000	147,015,200
Without valuable consideration.....	.....	4,225,000	22,703,700
Grand total.....	\$296,352,000	\$51,484,200	\$313,093,900

Of the subscriptions for the construction of new roads, the mortgage bonds were sold at or near par, and called for full value in cash. The income bonds and stock were added as a bonus, except \$13,500,000 cash subscriptions for stock. The amount of cash capital provided for new lines and extensions is therefore \$234,683,000. For the increase of stocks and bonds issued on consolidation, some \$155,194,200, as recited above, are payable. The third class represents improvements made out of surplus earnings or a higher capitalization for politic reasons, and asks for no cash contributions. Some of the largest of the new issues of stocks and bonds for railroad and telegraph construction were as follows: \$16,000,000 of mortgage bonds and an equal amount of stock issued by the New York, Chicago and St. Louis company, and taken by a syndicate for the construction of road between Buffalo and Chicago; \$20,000,000 of Northern Pacific bonds for extensions which will bring the mileage of the road up to 2,600 miles; \$12,200,000 of bonds and half that amount of stock of the Oregon Short Line, a spur of the Union Pacific to run into the State of Oregon, length 600 miles; \$15,000,000 of bonds and stock to an equal amount of the New York, West Shore, and Buffalo road, which will join the projected line up the west bank of the Hudson; \$5,000,000 of mortgage bonds, \$5,000,000 of income bonds,

and \$6,250,000 of stock for the new division of the Richmond, Alleghany and Ohio consolidated railroads; \$6,000,000 of bonds and the same amount of stock of the new Georgia Pacific line from Atlanta to the Mississippi River; \$3,000,000 of bonds and \$6,000,000 of stock to extend the Denver and Rio Grande narrow-gauge line; \$6,000,000 of bonds and \$3,000,000 of stock to complete the Denver and Rio Grande system; \$5,000,000 of bonds, accompanied by stock of the same amount, of the Texas and Pacific Railroad building from Fort Worth to El Paso; \$3,000,000 of bonds, and the same amount of stock for the New Orleans Pacific, a combination of the above from Shreveport to New Orleans; about \$6,250,000 of bonds and \$12,500,000 of stock to carry on the construction of the Southern Pacific; \$7,500,000 of bonds and stock to the same amount to construct the Mexican National Railway, for which the Palmer-Sullivan concession was granted; \$5,715,000 of mortgage bonds, \$1,139,200 of income bonds, and \$4,572,000 of stock of the Mexican Central, for which a Boston syndicate secured concessions; \$10,000,000 of mortgage bonds and \$7,000,000 of income bonds of the Atlantic and Pacific line to be built from Albuquerque to the Pacific coast, about 600 miles; \$5,000,000 of stock, with bonds of the same amount given as a bonus, to construct new lines of the Mutual Union Tele-

graph Company; and \$10,000,000 nominal capital of the Cable Construction Company to lay two new Atlantic cables.

The largest amounts of new stock and securities issued for improvements and to effect consolidations, not including the huge amounts issued on reorganization in lieu of the existing obligations of the merged lines, were as follows: \$14,492,000 of mortgage bonds, \$16,500,000 of income bonds, and \$39,000,000 of stock representing the addition by purchase and construction of 850 miles to the 1,123 miles of road owned or being built by the East Tennessee, Virginia and Georgia company; \$10,000,000 of bonds and \$2,000,000 of stock for new lines acquired by the Wabash, St. Louis and Pacific company; \$30,000,000 of stock of the Oregon Transcontinental company, which has expended \$16,000,000 in purchasing an interest in the Northern Pacific road; \$5,000,000 of income bonds and \$22,500,000 of stock of the Alabama, New Orleans, Texas, and Pacific Junction, offered in London; \$7,000,000 of mortgage bonds for improvements and acquisitions of the Louisville and Nashville Railroad; \$7,600,000 increase of stock of the Ohio Central company; \$10,237,700 of new stock issued to stockholders of the Union Pacific Railroad for extensions and betterments; \$6,000,000 of stock for additions to the property of the Oregon Railway and Navigation Company; \$10,000,000 of bonds issued by the Pennsylvania company for the purchase of leased roads; \$10,000,000 of 4 per cent bonds issued by the Pennsylvania Railroad Company for the purchase of the Philadelphia, Wilmington and Baltimore line; \$4,000,000 of bonds and \$5,000,000 of stock of the Chicago, Milwaukee and St. Paul company.

The largest issues of dividends in stock, certificates, and bonds, and increased allotments of stock to shareholders on reorganization, were an increase of \$13,000,000 in the stock of the roads consolidated into the Columbus, Hocking Valley and Toledo; \$4,225,008 of loan certificates issued to old stockholders by the Georgia Central company; and \$15,526,500 of stock issued to former holders of Western Union Telegraph stock upon the absorption of the American Union lines.

The extent of new railroad definitely undertaken and destined to be completed before the end of 1882, was 15,886 miles. For the construction of that amount of new track within fifteen months, engagements were known to have been entered into before October 1, 1881. This does not include the roads projected but not yet subscribed for, nor those for which the means were provided and the plans matured, which had not been advertised to the public. Of the prospective extensions, 4,791 miles were to be built east of the Mississippi River and north of the Potomac and Ohio Rivers; 2,352 miles east of the Mississippi and south of those two rivers; 4,063 miles west of the Mississippi and north of the latitude of St. Louis; 4,140

miles west of the Mississippi and south of that line; and 540 miles on the west side of the Rocky Mountains.

Railroads require for construction an expenditure of about \$20,000 per mile. Counting equipment and other expenses, they actually absorb about \$25,000 per mile of new line. The railroads undertaken, as estimated above, reduce therefore about \$397,000,000 of floating capital to this form of fixed capital. As new enterprises of the same sort were being matured with the same frequency during the remaining months of the year, that sum represents only a part of the aggregate capital provided for railroad extension in 1881 and 1882. A considerable part of the railroad-building of the earlier part of 1881 was done with money engaged for the purpose in 1880. The advance subscriptions for railroads to be constructed in the ensuing year were vastly heavier in 1881. Six new through or connecting lines have been projected between the Atlantic coast and the West, two of which are to be completed before the end of 1882, and all of them before 1884. The capital for these routes has nearly all of it been raised by private subscriptions of capitalists. The New York, Chicago and St. Louis road is being put down rapidly between Chicago and Buffalo. The Chicago and Atlantic is to connect with the Erie and Pennsylvania Railroads at Marion, Ohio. The New York, West Shore and Buffalo road is to run from Buffalo to Schenectady, and thence along the right bank of the North River, terminating opposite New York at Weehawken. The Boston, Hoosac Tunnel and Western follows a straight route from Boston to Buffalo. The New York, Lackawanna and Western runs parallel to the Erie road, and connects New York with Buffalo *via* the Delaware, Lackawanna and Western. The New York, Pittsburg and Chicago is to use the Central of New Jersey and its connecting lines in Pennsylvania, and to reach Chicago by the new Chicago and Atlantic Railroad.

The result of the railroad war, which strongly affected the stock market, was that the gross earnings of the five trunk lines were \$126,500,000, against \$121,000,000 in 1880; the net earnings \$48,250,000, against \$51,500,000.

In the autumn of 1878, just previous to the resumption of specie payments, the first signs of a revival in business appeared. Prices then stood at a lower figure than had been known for forty years. Since that date there has been a continuous general rise in values. In a table printed below are given the New York wholesale prices for the staple articles of American commerce on or about the 1st of November for 1878, and each succeeding year. A computation based on those prices, and the quantities of the different commodities entering into consumption or into commerce, gives the following comparative estimate of the general rise in values, and its proportional distribution among the main classes of commodities:

ARTICLES OF	1878.	1879.	1880.	1881.
Food.....	\$62 58	\$76 47	\$75 56	\$92 01
Clothing.....	27 57	33 19	33 88	33 96
Iron, etc.....	20 57	25 95	26 48	25 69
Lumber, etc.....	12 85	13 96	19 99	16 19
Total.....	\$123 07	\$149 57	\$155 91	\$167 85

The average effect was thus a mean advance of 21.54 per cent in November, 1879, on the prices of 1878; of 4.2 per cent in 1880 on the prices current in November, 1879; and of 7.65 per cent in 1881 on the prices of 1880. The rise in the general average of prices between 1878 and 1881 was 36.4 per cent. The mean rise in articles of food is seen to have been nearly 50 per cent, in other classes of articles about 25 per cent. The quotations for staple articles in the New York markets in the first week of November, on which the above computation is based, were, for the four years to which we have alluded above, as shown in the following table:

ARTICLES.	1878.	1879.	1880.	1881.
Wheat, No. 2 red winter, bush..	\$1 01	\$1 41	\$1 17½	\$1 44½
Corn, No. 2 mixed, bushel.....	46½	60½	56	69
Oats, No. 2 mixed, bushel.....	25½	41	39	47
Pork, mess, bbl.....	7 75	11 37	15 00	18 00
Bacon, short, clear, 100 lbs.....	5 63	6 59	8 25	9 62
Lard, Western, 100 lbs.....	6 25	7 20	8 65	11 57½
Beef, N. Y., average week, lb...	8	9	8½	9½
Tallow, lb.....	6½	7½	6½	8
Sheep, N. Y., average week, lb.	4½	4½	4½	4½
Butter, N. Y., firkins, good, lb.	16	19	26	25
Cheese, prime factory, lb.....	7½	11½	12	11½
Milk, av. sales surplus, N. Y. can	1 50	1 50	1 91½	2 68
Hay, shipping, cwt.....	45	50	90	65
Sugar, fair refining, lb.....	7½	7½	7½	8½
Molasses, Porto Rico, gallon....	3½	32	32	33
Coffee, Rio, fair cargoes, lb.....	15	17	14	11½
Tea, young hyson, lb.....	12½	29	21	15
Whisky, gallon (Chicago price)...	1 08	1 09	1 11	1 15
Beer, casks for export, av., gal..	40-4	38-9	31-3	40
Hops, Eastern.....	15	32	15	22
Salt, Liverpool ground, sack....	65	75	75	75
Tobacco, Kentucky leaf, lb.....	6	6	6½	8
Cotton, middling uplands, 100 lbs.	9 37	11 25	11 06	11 62½
Wool, Ohio No. 1, lb.....	35	43	47	46
Woolens, doeskins, Aragon fine.	51½	51	57½	50
Hides, Buenos Ayres, lb.....	20	23	21	22
Leather, hemlock sole, light, lb..	25	24	23	22
India-rubber, Para, fine, lb.....	50	86	82	80
Iron, American No. 1, ton.....	16 50	23 00	25 00	25 00
Iron rails, ton.....	34 00	45 00	46 00	47 00
Coal, anthracite, ton.....	3 60	2 95	4 00	3 95
Petroleum, U. S. certificates ...	83	89½	91½	85½
Copper, ingot, lb.....	15½	21½	18½	18
Tin, Straits, lb.....	18½	25½	19½	21½
Lead, domestic, 100 lbs.....	3 70	5 25	4 75	4 75
Hemp, Manila, lb.....	7	8½	8½	12½
Lumber, spruce, middling, M....	10 25	11 09	18 00	13 00
Brick, hard, M.....	3 75	5 59	5 00	7 50
Lime, common Rockland, bbl...	80	75	75	1 10
Linseed-oil, gallon.....	59	75	57	59
Turpentine, spirits.....	27½	46	47½	51½
Paint, white-lead, in oil.....	8	8½	8	7½
Opium, Turkey, duty paid.....	4 25	5 37½	6 00	4 12½
Quinine.....	3 61	2 80	2 80	1 83
Soda-ash.....	1 65	1 70	1 55	1 45

YEAR.	Currency.	Gold.
1864.....	\$225 00	\$125 00
1865.....	184 00	127 00
1866.....	167 00	131 00
1867.....	189 00	138 00
1868.....	195 00	140 00
1869.....	156 00	116 00
1870.....	136 00	118 00
1871.....	134 00	120 00
1872.....	138 00	122 00
1873.....	132 00	113 00
1874.....	131 00	115 00
1875.....	124 00	107 00
1876.....	112 00	100 00
1877.....	119 00	111 00
1878.....	81 40	81 40
1879.....	98 93	98 93
1880.....	103 08	103 08
1881.....	111 27	111 27

CONFERENCE, INTERNATIONAL MONETARY. (See BI-METALLIO STANDARD.) CONGREGATIONALISTS. The "Congregational Year-Book" for 1881 gives the following statistics of the Congregational churches in the United States:

STATES, ETC.	Churches.	Ministers.	Members.
Alabama.....	15	13	813
Arizona.....	1	1	13
California.....	83	68	4,756
Colorado.....	21	17	921
Connecticut.....	293	376	55,598
Dakota.....	29	19	641
District of Columbia.....	1	10	631
Florida.....	2	1	76
Georgia.....	12	13	846
Illinois.....	244	233	22,409
Indiana.....	30	19	1,603
Indian Territory.....	4	2	73
Iowa.....	234	189	15,512
Kansas.....	177	122	6,428
Kentucky.....	7	9	442
Louisiana.....	17	18	1,594
Maine.....	233	196	21,400
Maryland.....	2	1	189
Massachusetts.....	526	669	91,439
Michigan.....	233	200	17,083
Minnesota.....	140	95	6,940
Mississippi.....	5	2	146
Missouri.....	63	51	3,963
Nebraska.....	124	83	3,530
Nevada.....	1	1	81
New Hampshire.....	157	273	20,184
New Jersey.....	23	38	3,177
New Mexico.....	..	3	4
New York.....	253	260	33,964
North Carolina.....	6	6	413
Ohio.....	212	155	22,650
Oregon.....	14	13	878
Pennsylvania.....	78	58	5,966
Rhode Island.....	25	36	5,824
South Carolina.....	2	2	174
Tennessee.....	5	11	389
Texas.....	8	8	199
Utah.....	2	3	133
Vermont.....	193	135	20,083
Virginia.....	3	3	263
Washington Territory.....	20	13	367
West Virginia.....	2	1	91
Wisconsin.....	188	165	12,919
Wyoming.....	1	1	117
Total.....	3,745	3,577	384,932

Prices are about 10 per cent higher than in 1860, while in 1878 they were about 18½ per cent lower. The purchasing power of \$100 in 1860 is estimated to have been equal to that of \$78 in 1843, \$126 in 1837, and \$111 in 1825. The sums equivalent to \$100 in 1860 for each year since the civil war have been calculated as follows:

Of the churches, 2,800 were returned as "with pastors," 945 as "vacant"; of the ministers, 2,412 as "in pastoral work," 1,165 as "not in pastoral work." Number of licentiates, additional to "ministers," 224. Number of additions by profession of faith during the year, 12,230; number of baptisms, 5,893 of adults, 4,989 of infants; number of families

connected with the churches, 187,617; number of persons connected with Sunday-schools, 444,628. Total amount of benevolent contributions from 2,896 churches reporting them, \$1,032,272; amount of contributions for home expenditure from 2,613 churches reporting, \$3,446,489.

The seven theological seminaries (Andover, Andover, Massachusetts; Bangor, Bangor, Maine; Chicago, Chicago, Illinois; Hartford, Hartford, Connecticut; Oberlin, Oberlin, Ohio; Pacific, Oakland, California; and Yale, New Haven, Connecticut) returned altogether, 36 professors, 19 lecturers, and 279 students.

According to the tables given in their "Year Book" for 1881-'82, the Congregationalists of the *Dominion of Canada* have 91 churches with 51 pastors, 28 assemblies not churches, 84 preaching-stations, an average attendance on worship of 13,210 persons, with a total of 17,627 persons under pastoral care, 5,653 church-members, and 6,753 Sunday-school scholars.

The "Year-Book" of the *Congregational Churches of England and Wales* for 1881 gives lists of 4,188 churches and 2,723 pastors, lay pastors, and evangelists. Seventy-five ministers had been ordained during the year. Eighteen ministers left the denomination, and as many had been received from other churches.

I. CONGREGATIONALISTS IN THE UNITED STATES.—The working capital of the *American Congregational Union* for the year ending May 1, 1881, was \$55,359. The society had made grants and loans (mostly grants) to 71 churches. During the twenty-eight years of its existence, the Union had aided in the erection of 1,120 houses of worship, and it was now pledged to sixty additional ones.

The fifty-fifth annual meeting of the *American Home Missionary Society* was held in the city of New York, May 8th. The receipts of the society for the year had been \$290,953, and its expenditures \$284,414. It sustained missions in thirty-four States and Territories, employing 1,032 missionaries, who served 2,653 preaching-places. Five of the missionaries were commissioned to congregations composed of colored people, and twenty-six to congregations of foreign nationalities, chiefly of Welsh. The number of pupils in Sunday-schools was 99,898. Seventeen more missionaries were employed than during the previous year, and 131 churches had been founded.

A committee appointed to consider the subject of amending the constitution of the society has made a report proposing certain provisions for securing its constant control by influences favorable to the "evangelical" side of religious belief. The society was founded as an undenominational agency to assist congregations unable to support a minister, and to send the gospel to destitute places, and was supported for many years jointly by Congregationalists and Presbyterians. The Presbyterians having formed their own societies, it was left in the hands of the Congregationalists, who, however,

exercised no direct control over it as such. The committee recommended that the articles defining the object of the society be amended by the insertion of the words "but no minister or teacher shall be employed by this society who is not in regular standing in some Protestant evangelical church," and that these several State Congregational bodies be given the right to nominate, according to their membership, one or more directors, to be chosen by the society at its annual meeting. The committee also proposed that the Board of Directors thus chosen, besides selecting the Executive Committee of fourteen, as now, be also given authority to name the secretary and treasurer of the society.

The thirty-fifth annual meeting of the *American Missionary Association* was held at Worcester, Massachusetts, November 1st, 2d, and 3d. The total ordinary receipts of the association for the year had been \$243,795, or \$56,315 more than the receipts of the previous year. Besides this amount, the following sums had been received by institutions in which the association has an interest: Berea College, \$60,106; Hampton Normal and Agricultural Institute, \$102,579; Atlanta University (appropriation from the State of Georgia), \$8,000—making, with \$114,563 received for endowment and special funds, the total receipts for the work in which the association is engaged, \$529,046.

The association conducts missions and schools among the freedmen in the Southern States; at the Mendi mission on the west coast of Africa; among the Indians at the Skokomish agency; and among the Chinese on the Pacific coast of the United States. Its work among the freedmen included, according to the report for the past year, eight chartered institutions, and forty-six normal and common schools, with 230 teachers and 9,108 students, and 78 churches, with 5,472 church-members and 8,130 persons in Sunday-schools. The pupils in the schools were classified as follows: theological, 104; law, 20; collegiate, 91; collegiate preparatory, 131; normal, 2,342; grammar, 473; intermediate, 2,722; primary, 3,361; studying in two grades, 136. Seven State Conferences, holding annual conventions, had been organized among the freedmen's churches. Eleven missionaries had been commissioned to labor in the homes of the poor and destitute colored people. The Mendi mission, in West Africa, comprised a church and school, which had been well kept up, a coffee-farm that promised to make a good return, and a profitable saw-mill. Three lads from the Mendi country were at school in the United States. Commissioners had been dispatched to arrange for the establishment of a mission on the Upper Nile, near the mouth of the Sobat, in aid of which \$30,000 were expected from English friends of the work, conditioned upon the association providing \$20,000 more. The two churches among the Indians enjoyed an average attend-

ance of about one hundred and twenty persons in the congregations, and had contributed \$614 to benevolent objects. Indian youth under the tutelage of the society were attending school at the Hampton Institute, Virginia, and at Carlisle, Pennsylvania, and the Executive Committee was contemplating the provision of accommodations for Indian youth in connection with other institutions. Sixteen hundred and thirty-two pupils were enrolled in the schools for the Chinese on the Pacific coast of the United States.

The seventy-second annual meeting of the *American Board of Commissioners for Foreign Missions* was held at St. Louis, Missouri, October 18th. The ordinary receipts of the board for the year had been \$451,214, and the appropriations, including provision to meet the deficit of the previous year, had been \$453,273; and the Prudential Committee was able to report, for the first time for several years, that the current annual expenses had been met by the current annual receipts; it also reported that the deficit at the beginning of the year, of more than \$14,000, had been reduced to \$2,059. Nine missionaries and thirty-one assistant missionaries had been added to the roll of the laborers of the board. The reports from the mission-fields included accounts of the progress of the work of evangelization in Africa (Zooloos), the Turkish Empire (European Turkey, Asia Minor, and Armenia), India, Ceylon, China, Japan, Micronesia, among the North American Indians, in Mexico, Spain, and the Austrian Empire. The report named, as events worthy of especial mention, the establishment of a new mission in Bihé, Central Africa; the advance in the higher Christian education in the Turkish Empire and in India; the success which had attended the work of the women "in nearly every mission-field"; and the illustration of the value of the boarding-schools in the development of Christian character.

Missions.—Number of missions, 17; number of stations, 81; number of out-stations, 733.

Laborers employed.—Number of ordained missionaries (5 being physicians), 159; number of physicians not ordained, men and women, 11; number of other male assistants, 10; number of female assistants, 253; whole number of laborers sent from the United States, 433. Number of native pastors, 141; number of native preachers and catechists, 365; number of native school-teachers, 1,005; number of other native helpers, 206. Whole number of laborers connected with the missions, 2,131.

The Press.—Pages printed, as far as reported (Turkish, Japan, North China, Zooloo, and India missions), 25,000,000.

The Churches.—Number of churches, 272; number of church-members, as nearly as can be learned, 18,446; added during the year, as nearly as can be learned, with additions not previously reported, 2,161.

Educational Department.—Number of training, theological schools, and station-classes, 51; number of pupils in the above, 1,468; number of boarding-schools for girls, 36; number of pupils in boarding-schools for girls, 1,420; number of common schools, 791; number of pupils in common schools, 30,472; whole number of pupils, 33,360.

The National Congregational Council of 1880 appointed a committee to which it intrusted the duty of selecting a commission of twenty-five persons to consider the matter of preparing a new *Creed* and *Catechism* for the Congregational churches. This committee, in June, 1881, announced the appointment of the following persons as members of the commission:

Rev. Julius H. Seelye, D. D., Amherst, Mass.
 Rev. Charles M. Mead, D. D., Andover, Mass.
 Rev. Henry M. Dexter, D. D., Boston, Mass.
 Rev. Edmund K. Alden, D. D., Boston, Mass.
 Rev. Alexander McKenzie, D. D., Cambridge, Mass.
 Rev. Samuel Harris, D. D., New Haven, Conn.
 Rev. George P. Fisher, D. D., New Haven, Conn.
 Rev. George L. Walker, D. D., Hartford, Conn.
 Rev. William S. Karr, D. D., Hartford, Conn.
 Prof. George T. Ladd, Brunswick, Me.
 Rev. Samuel P. Leeds, D. D., Hanover, N. H.
 Rev. David B. Coe, D. D., New York, N. Y.
 Rev. William M. Taylor, D. D., New York, N. Y.
 Rev. Lyman Abbott, D. D., Cornwall-on-the-Hudson, N. Y.
 Rev. Augustus F. Beard, D. D., Syracuse, N. Y.
 Rev. William W. Patton, D. D., Washington, D. C.
 Rev. James H. Fairchild, D. D., Oberlin, O.
 Rev. Israel W. Andrews, D. D., Marietta, O.
 Rev. Zachary Eddy, D. D., Detroit, Mich.
 Rev. James T. Hyde, D. D., Chicago, Ill.
 Rev. Edward P. Goodwin, D. D., Chicago, Ill.
 Rev. Alden B. Robbins, D. D., Muscatine, Ia.
 Rev. Constans L. Goodell, D. D., St. Louis, Mo.
 Rev. Richard Cordley, D. D., Emporia, Kan.
 Rev. George Moor, D. D., Oakland, Cal.

In announcing the appointments, the committee stated that, in making the selection, different sections of the country had been drawn upon somewhat in proportion to the membership in the Congregational churches in each. The list embraced men who were understood to represent different shades of opinion, while holding fast to the essential doctrines of the gospel. With a large proportion of pastors were joined representatives of theological seminaries and colleges, of the religious press, and of the missionary work of the churches.

The commission met at Syracuse, New York, September 28th; Professor Julius H. Seelye, of Amherst College, presided. The work assigned to the body was considered, and a plan of operations was adopted. The commission was divided into three committees, namely: a committee on the larger confession of faith, President James H. Fairchild, of Oberlin College, chairman; a committee on the smaller statement of belief, Rev. Dr. E. P. Goodwin, of Chicago, chairman; and a committee on the catechism, Rev. Dr. Alexander McKenzie, of Cambridge, chairman. The reports of the committees are to be made to the full commission, to be called together before July 15, 1882.

II. CONGREGATIONALISTS OF ENGLAND AND WALES.—The forty-ninth annual meeting of the *Congregational Union of England and Wales* was held in London, May 9th. The Rev. Dr. Allon presided, and delivered an inaugural address on the subject of "Congregationalism," treating the subject with especial reference to the approaching jubilee of the Union. He showed that of the eighty-two million persons constituting the religious denominations of the English-speaking world, twenty-five millions, including the Baptist churches, held to the Congregational, thirty-two million Anglicans and Roman Catholics to the Episcopal, and twenty-five million Presbyterians and Methodists to the Presbyterian form of government. He believed that the New Testament laid down no principle, injunction, or precedent concerning church government, but that the validity of the congregational church life could be justified by an appeal to the congregationalism of the earliest Christian communities. Referring to the history of the Union, the speaker remarked that it had given birth to evangelizing agencies of various kinds which had nearly doubled the forces of English congregationalism during the last fifty years. Since 1838, the number of chapels had increased from 1,879 to 3,102, with 1,081 preaching-stations; of hearers, from 563,200 to 962,100; and of communicants from 169,110 to 313,807. The committee on the special jubilee fund reported that it had decided to recommend two objects, viz., the Church Aid Society, and the project for liquidating church debts, which were stated to amount, in the aggregate, to half a million pounds sterling. These propositions were unanimously approved. A resolution was passed recommending "a godly, scriptural discipline, both in the admission of members and in the rebuke or exclusion of the unworthy." The Rev. J. A. Macfadyen, of Manchester, was elected president of the Union for the next year.

The fiftieth anniversary of the organization of the Union was celebrated at the autumnal meeting, which was held in Manchester, beginning October 4th. A large deputation was in attendance from the United States, and delegates were also present from Canada, Ireland, Scotland, Africa, and Australia. The opening address of the president, Dr. Allon, was on "The Church of the Future," and embodied an argument to show that the "future will be with the church that has in it the greatest moral forces," those being declared the greatest moral forces which most powerfully affect the "conscience and the religious heart of man." The Rev. Dr. Stoughton read a paper also at the opening meeting on "Reminiscences of Congregationalism Fifty Years ago." A committee which had been appointed to raise a jubilee fund reported that it had obtained subscriptions to the amount of £50,179. Lectures on the history and condition of Congregationalism were contemplated in aid of the

enterprise. The fund was intended to remove the load of debt under which many of the churches were suffering, and to supplement the pay of ministers, but the institution of a system of permanent endowment was not contemplated. The subscriptions would be spread over three or five years; at the end of which time it was expected that the income of the churches would be permanently and voluntarily increased.

The eighty-seventh annual meeting of the *London Missionary Society* was held in London, May 12th. The Earl of Aberdeen presided. The receipts of the society during the year from all sources had amounted to £108,247, and the expenditures to £111,659. The report of the foreign secretary contained a general comparative review of the operations of the society during the last ten years. The number of European missionaries had been reduced from 175 in 1867 and 160 in 1871 to 139, but the reduction had not been attended with a corresponding contraction in the sphere of labor of the society, for the principle of self-support had been extended. Ten churches in South Africa and eleven churches in the West Indies had become independent during the last ten years. The number of native laborers had also largely increased to a degree represented by the return of 371 native ordained pastors in 1880 to 106 in 1870, of 4,529 native preachers in 1880 to 1,644 in 1870, besides a considerable increase among the independent churches of the West Indies and the Cape Colony. New missions had been begun in Central Africa and New Guinea, which employed twelve missionaries. Training institutes were in successful operation in the South-Sea Islands, Madagascar (Antananarivo College), and in South Africa (Moffat Institute). Fourteen women missionaries additional to wives of missionaries had been sent out since 1876, of whom eleven were still engaged in work. The most successful work had been accomplished in Madagascar and the South-Sea Islands, and substantial progress had been made in India and China. The Rev. Ralph Wardlaw Thompson entered upon the office of foreign secretary of the society in January, 1881, in place of the Rev. Dr. Mullens, deceased.

III. FREE CHURCHES OF FRANCE.—The Synod of the Union of *Free Evangelical Churches of France* met in Paris, November 10th. Dr. E. de Pressensé was chosen president. The Synodal Commission reported the present number of members to be 3,139, or 88 less than were returned at the previous synod. Three pastors had left the synod for the Reformed Church, while the synod had received three pastors from abroad and had ordained six new ones. The total contributions of the churches had been 55,389 francs, besides which the synod had received 30,180 francs from abroad. The Commission for Evangelization had received 96,606 francs, and maintained thirteen stations, which were supplied by fourteen agents.

CONGRESS, UNITED STATES. The third session of the Forty-sixth Congress commenced at Washington on December 6, 1880, and closed on March 4, 1881. The Vice-President of the United States took the chair in the Senate, and Samuel J. Randall, of Pennsylvania, the Speaker, presided in the House. (For the President's message, Rutherford B. Hayes, see "Public Documents," in ANNUAL CYCLOPEDIA, 1880.)

The following is a list of members :

HOUSE OF REPRESENTATIVES.

Alabama.

- | | |
|--------------------------|---------------------------|
| 1, Thomas Herndon, D. | 5, Thomas Williams, D. |
| 2, Hilary A. Herbert, D. | 6, Newton M. Clements, D. |
| 3, W. J. Sanford, D. | 7, William H. Forney, D. |
| 4, Charles M. Shelby, D. | 8, William M. Lowe, N. |

Arkansas.

- | | |
|----------------------------|--------------------------|
| 1, Poindexter Dunn, D. | 3, Jordan E. Cravens, D. |
| 2, William F. Slemmons, D. | 4, Thomas M. Gunter, D. |

California.

- | | |
|-----------------------|-------------------------|
| 1, Horace Davis, R. | 3, C. P. Berry, D. |
| 2, Horace F. Page, R. | 4, Romauldo Pacheco, R. |

Colorado.

- 1, James B. Belford, R.

Connecticut.

- | | |
|-------------------------|------------------------|
| 1, Joseph R. Hawley, R. | 3, John T. Wait, R. |
| 2, James Phelps, D. | 4, Frederiek Miles, R. |

Delaware.

- 1, Edward L. Martin, D.

Florida.

- | | |
|--------------------------|----------------------|
| 1, R. H. M. Davidson, D. | 2, Noble A. Hull, D. |
|--------------------------|----------------------|

Georgia.

- | | |
|-------------------------|------------------------------|
| 1, John C. Nicholls, D. | 6, James H. Blount, D. |
| 2, William E. Smith, D. | 7, William H. Felton, D. |
| 3, Philip Cook, D. | 8, Alexander H. Stephens, D. |
| 4, Henry Persons, D. | 9, Emory Speer, D. |
| 5, N. J. Hammond, D. | |

Illinois.

- | | |
|----------------------------|-----------------------------|
| 1, William Aldrich, R. | 11, James W. Singleton, D. |
| 2, George R. Davis, R. | 12, William M. Springer, D. |
| 3, Hiram Barber, Jr., R. | 13, Adlai E. Stevenson, N. |
| 4, John C. Sherwin, R. | 14, Joseph G. Cannon, R. |
| 5, R. M. A. Hawk, R. | 15, A. P. Forsyth, N. |
| 6, Thomas J. Henderson, R. | 16, W. A. J. Sparks, D. |
| 7, Philip C. Hayes, R. | 17, William R. Morrison, D. |
| 8, Greenbury L. Fort, R. | 18, J. R. Thomas, R. |
| 9, Thomas A. Boyd, R. | 19, R. W. Townshend, D. |
| 10, Benjamin F. Marsh, R. | |

Indiana.

- | | |
|----------------------------|----------------------------|
| 1, William Heilman, R. | 8, A. J. Hostetler, D. |
| 2, Thomas R. Cobb, D. | 9, Godlove S. Orth, R. |
| 3, George A. Bicknell, D. | 10, William H. Calkins, R. |
| 4, Jephtha D. New, D. | 11, Calvin Cowgill, R. |
| 5, Thomas M. Browne, R. | 12, W. G. Colerick, D. |
| 6, William R. Meyers, D. | 13, John H. Baker, R. |
| 7, Gilbert de la Matyr, N. | |

Iowa.

- | | |
|----------------------------|---------------------------|
| 1, Moses A. McCold, R. | 6, J. B. Weaver, N. |
| 2, Hiram Price, R. | 7, E. H. Gillette, N. |
| 3, Thomas Updegraff, R. | 8, W. F. Sapp, R. |
| 4, N. C. Deering, R. | 9, Cyrus C. Carpenter, R. |
| 5, William G. Thompson, R. | |

Kansas.

- | | |
|--------------------------|--------------------|
| 1, John A. Anderson, R. | 3, Thomas Ryan, R. |
| 2, Dudley C. Haskell, R. | |

Kentucky.

- | | |
|--------------------------|----------------------------|
| 1, Osear Turner, D. | 6, John G. Carlisle, D. |
| 2, James A. McKenzie, D. | 7, J. C. S. Blackburn, D. |
| 3, John W. Caldwell, D. | 8, P. B. Thompson, Jr., D. |
| 4, J. Proctor Knott, D. | 9, Thomas Turner, D. |
| 5, Albert S. Willis, D. | 10, Elijah C. Phister, D. |

Louisiana.

- | | |
|--------------------------|------------------------|
| 1, Randall L. Gibson, D. | 4, J. B. Elam, D. |
| 2, E. John Ellis, D. | 5, J. Floyd King, D. |
| 3, Joseph H. Aeklen, D. | 6, E. W. Robertson, D. |

Maine.

- | | |
|---------------------------|--------------------------|
| 1, Thomas B. Reed, R. | 4, George W. Ladd, D. |
| 2, William P. Frye, R. | 5, Thompson H. Mureh, N. |
| 3, Stephen D. Lindsey, R. | |

Maryland.

- | | |
|------------------------|-------------------------|
| 1, Daniel M. Henry, D. | 4, Robert M. McLane, D. |
| 2, J. F. C. Talbot, D. | 5, Eli J. Henkle, D. |
| 3, William Kimmell, D. | 6, Milton G. Urner, R. |

SENATE.

Alabama.

- 1883, John T. Morgan, D.
1885, James L. Pugh, D.

California.

- 1881, Newton Booth, R.
1885, James T. Farley, D.

Connecticut.

- 1881, W. W. Eaton, D.
1885, Orville H. Platt, R.

Florida.

- 1881, C. W. Jones, D.
1885, Wilkinson Call, D.

Illinois.

- 1883, David Davis, I.
1885, John A. Logan, R.

Iowa.

- 1883, S. J. Kirkwood, R.
1885, William B. Allison, R.

Kentucky.

- 1883, James B. Beck, D.
1885, J. S. Williams, D.

Maine.

- 1881, H. Hamlin, R.
1883, James G. Blaine, R.

Massachusetts.

- 1881, H. L. Dawes, R.
1883, George F. Hoar, R.

Minnesota.

- 1881, S. J. R. McMillan, R.
1883, William Windom, R.

Missouri.

- 1881, F. M. Cockrell, D.
1885, George G. Vest, D.

Nevada.

- 1881, William Sbaron, R.
1885, John P. Jones, R.

New Jersey.

- 1881, T. F. Randolph, D.
1883, J. R. McPherson, D.

North Carolina.

- 1883, M. W. Ransom, D.
1885, Zeb. B. Vance, D.

Oregon.

- 1883, Lafayette Grover, D.
1885, James H. Slater, D.

Rhode Island.

- 1881, A. E. Burnside, R.
1883, H. B. Anthony, R.

Tennessee.

- 1881, James E. Bailey, D.
1883, I. G. Harris, D.

Vermont.

- 1881, G. F. Edmunds, R.
1885, J. S. Morrill, R.

West Virginia.

- 1881, F. Hereford, D.
1883, H. G. Davis, D.

Arkansas.

- 1883, A. H. Garland, D.
1885, James D. Walker, D.

Colorado.

- 1883, H. M. Teller, R.
1885, N. P. Hill, R.

Delaware.

- 1881, Thomas F. Bayard, D.
1883, Eli Saulsbury, D.

Georgia.

- 1883, Benjamin H. Hill, D.
1885, Joseph E. Brown, D.

Indiana.

- 1881, J. E. McDonald, D.
1885, D. W. Voorbees, D.

Kansas.

- 1883, P. B. Plumb, R.
1885, John J. Ingalls, R.

Louisiana.

- 1883, W. P. Kellogg, R.
1885, Thomas C. Manning, D.

Maryland.

- 1881, William P. Whyte, D.
1885, James B. Groome, D.

Michigan.

- 1881, H. P. Baldwin, R.
1883, Thomas W. Ferry, R.

Mississippi.

- 1881, B. K. Bruce, D.
1883, L. Q. C. Lamar, D.

Nebraska.

- 1881, A. S. Paddock, R.
1883, Alvin Saunders, R.

New Hampshire.

- 1883, Edward H. Rollins, R.
1885, Henry W. Blair, R.

New York.

- 1881, Francis Kernan, D.
1885, R. Conkling, R.

Ohio.

- 1881, A. G. Thurman, D.
1885, G. H. Pendleton, D.

Pennsylvania.

- 1881, William A. Wallace, D.
1885, J. Don Cameron, R.

South Carolina.

- 1883, M. C. Butler, D.
1885, Wade Hampton, D.

Texas.

- 1881, S. B. Maxey, D.
1883, Richard Coke, D.

Virginia.

- 1881, R. E. Withers, D.
1883, J. W. Johnston, D.

Wisconsin.

- 1881, Angus Cameron, R.
1885, M. H. Carpenter, R.

Recapitulation.

Demoerats.....	42	Independent.....	1
Republicans.....	33	Democratic majority.....	8

Massachusetts.

- 1, William W. Crapo, R.
- 2, Benjamin W. Harris, R.
- 3, Walbridge A. Field, R.
- 4, Leopold Morse, D.
- 5, S. Z. Bowman, R.
- 6, George B. Loring, R.
- 7, William A. Russell, R.
- 8, William Claiborne, R.
- 9, William W. Rice, R.
- 10, Amasa Norcross, R.
- 11, George D. Robinson, R.

Michigan.

- 1, J. S. Newberry, R.
- 2, Edwin Willits, R.
- 3, J. H. McGowan, R.
- 4, J. C. Burrows, R.
- 5, John W. Stone, R.
- 6, Mark S. Brewer, R.
- 7, Omar D. Conger, R.
- 8, Roswell G. Horr, R.
- 9, Jay A. Hubbell, R.

Minnesota.

- 1, M. H. Dunnell, R.
- 2, Henry Poehler, D.
- 3, W. D. Washburn, R.

Mississippi.

- 1, H. L. Muldrow, D.
- 2, Van H. Manning, D.
- 3, H. D. Money, D.
- 4, Otho R. Singleton, D.
- 5, Charles E. Hooker, D.
- 6, J. R. Chalmers, D.

Missouri.

- 1, Martin L. Clardy, D.
- 2, Erasmus Wells, D.
- 3, R. G. Frost, D.
- 4, L. H. Davis, D.
- 5, Richard P. Bland, D.
- 6, John R. Waddill, D.
- 7, Alfred M. Lay, D.
- 8, Samuel L. Sawyer, D.
- 9, Nicholas Ford, N.
- 10, G. F. Rothwell, D.
- 11, John B. Clark, Jr., D.
- 12, William H. Hatch, D.
- 13, A. H. Buckner, D.

Nebraska.

- 1, Ed. K. Valentine, R.

Nevada.

- 1, Rollin M. Daggett, R.

New Hampshire.

- 1, Joshua G. Hall, R.
- 2, James F. Briggs, R.
- 3, Ossian Ray, R.

New Jersey.

- 1, George M. Robeson, R.
- 2, Heczekiah B. Smith, D.
- 3, Miles Ross, D.
- 4, Alvah A. Clark, D.
- 5, C. H. Voorhis, R.
- 6, John L. Blake, R.
- 7, L. A. Brigham, R.

New York.

- 1, James W. Covert, D.
- 2, Daniel O'Reilly, D.
- 3, S. B. Chittenden, R.
- 4, A. M. Bliss, D.
- 5, Nicholas Muller, D.
- 6, S. S. Cox, D.
- 7, Edwin Einstein, R.
- 8, A. G. McCook, R.
- 9, Fernando Wood, D.
- 10, James O'Brien, D.
- 11, Levi P. Morton, R.
- 12, Waldo Hutchins, D.
- 13, J. H. Ketcham, R.
- 14, John W. Ferdon, R.
- 15, William Lounsherry, D.
- 16, John M. Bailey, R.
- 17, Walter A. Wood, R.
- 18, J. H. Hammond, R.
- 19, A. B. James, R.
- 20, John H. Starin, R.
- 21, David Wilbur, R.
- 22, Warner Miller, R.
- 23, Cyrus D. Prescott, R.
- 24, Joseph Mason, R.
- 25, Frank Hiseock, R.
- 26, John H. Camp, R.
- 27, E. G. Lapham, R.
- 28, Jere W. Dwight, R.
- 29, D. P. Richardson, R.
- 30, J. Van Voorhis, R.
- 31, Richard Crowley, R.
- 32, Jonathan Scoville, R.
- 33, H. H. Van Aernam, R.

North Carolina.

- 1, Jesse J. Yeates, R.
- 2, W. H. Kitchin, D.
- 3, D. L. Russell, N.
- 4, Joseph J. Davis, D.
- 5, Alfred M. Scales, D.
- 6, Walter L. Steele, D.
- 7, R. F. Armfield, D.
- 8, Robert B. Vance, D.

Ohio.

- 1, Benjamin Butterworth, R.
- 2, Thomas L. Young, R.
- 3, J. A. McMahon, D.
- 4, J. Warren Keifer, R.
- 5, Benjamin Lefevre, D.
- 6, W. D. Hill, D.
- 7, Frank Hurd, D.
- 8, E. B. Finley, D.
- 9, George L. Converse, D.
- 10, Thomas Ewing, D.
- 11, H. L. Dickey, D.
- 12, Henry S. Neal, R.
- 13, A. J. Warner, D.
- 14, Gibson Atherton, D.
- 15, George W. Geddes, D.
- 16, Wm. McKinley, Jr., R.
- 17, James Monroe, R.
- 18, J. T. Updegraff, R.
- 19, Ezra B. Taylor, R.
- 20, Amos Townsend, R.

Oregon.

- 1, John Whitaker, D.

Pennsylvania.

- 1, H. H. Bingham, R.
- 2, Charles O'Neill, R.
- 3, Samuel J. Randall, D.
- 4, William D. Kelley, R.
- 5, A. C. Hamner, R.
- 6, William Ward, R.
- 7, William Godshalk, R.
- 8, Hiestor Clymer, D.
- 9, A. Herr Smith, R.
- 10, R. K. Bachman, D.
- 11, Robert Klotz, D.
- 12, H. B. Wright, D.
- 13, John W. Eyon, D.
- 14, John W. Killinger, R.
- 15, Edward Overton, R.
- 16, John I. Mitchell, R.
- 17, A. H. Coffroth, D.
- 18, Horatio G. Fisher, R.
- 19, F. E. Beltzhoover, D.
- 20, Seth H. Yocum, N.
- 21, Morgan R. Wise, D.
- 22, Russell Errett, R.
- 23, Thomas M. Bayne, R.
- 24, W. S. Shallenberger, R.
- 25, Harry White, R.
- 26, S. B. Dick, R.
- 27, J. H. Hosmer, R.

Rhode Island.

- 1, N. W. Aldrich, R.
- 2, Latimer W. Ballou, R.

South Carolina.

- 1, J. S. Richardson, D.
- 2, M. P. O'Connor, D.
- 3, D. Wyatt Aiken, D.
- 4, John E. Evins, D.
- 5, G. D. Tillman, D.

Tennessee.

- 1, Robert L. Taylor, D.
- 2, L. C. Houk, R.
- 3, George C. Durrell, D.
- 4, Benton McMillan, D.
- 5, John M. Bright, D.
- 6, John F. Hense, D.
- 7, W. C. Whitthorne, D.
- 8, John D. C. Atkins, D.
- 9, C. B. Simonton, D.
- 10, H. Casey Young, D.

Texas.

- 1, John H. Reagan, D.
- 2, D. B. Culherson, D.
- 3, Olin Wellborn, D.
- 4, Roger Q. Mills, D.
- 5, George W. Jones, N.
- 6, Columbus Upson, D.

Virginia.

- 1, R. L. T. Beale, D.
- 2, John Goode, Jr., D.
- 3, Joseph E. Johnston, D.
- 4, Joseph Jorgenson, R.
- 5, George C. Cabell, D.
- 6, J. R. Tucker, D.
- 7, John T. Harris, D.
- 8, Eppa Hunton, D.
- 9, J. B. Richmond, D.

Vermont.

- 1, Charles H. Joyce, R.
- 2, James M. Tyler, R.
- 3, Bradley Barlow, R.

West Virginia.

- 1, Benjamin Wilson, D.
- 2, Benjamin F. Martin, D.
- 3, John E. Kenna, D.

Wisconsin.

- 1, Charles G. Williams, R.
- 2, Lucien B. Caswell, R.
- 3, George C. Hazleton, R.
- 4, P. V. Denster, D.
- 5, Edward S. Bragg, D.
- 6, Gabriel Bouck, D.
- 7, H. L. Humphrey, R.
- 8, Thaddeus C. Pound, R.

Recapitulation.

Democrats.....	150	Nationals.....	11
Republicans.....	132	Democratic maj. over all..	7

Territorial Delegates.

- | | |
|--------------------------------|---------------------------------|
| <i>Arizona</i> —H. S. Stevens. | <i>New Mexico</i> —M. S. Otero. |
| <i>Dakota</i> —G. G. Bennett. | <i>Utah</i> —G. Q. Cannon. |
| <i>Idaho</i> —George Ainslie. | <i>Washington</i> —O. Jacobs. |
| <i>Montana</i> —M. Maginnis. | <i>Wyoming</i> —W. W. Corlett. |

In the Senate, on January 12th, Senator Logan, of Illinois, introduced the following joint resolution:

Resolved, etc., That the franking privilege is hereby extended to all official business sent through the mails by Senators, Representatives, and Delegates in Congress; in all other respects to be under the restrictions and limitations of existing law.

Mr. Davis, of West Virginia: "I have no objection to the joint resolution being taken up, but it occurs to me the Senator had better let it go to the Committee on Post-Offices and Post-Roads. There may be further privileges which ought to be given. I do not know whether the joint resolution embraces all the privileges that ought to be granted or not. I am with the Senator in what he now asks, but it is highly probable that the joint resolution ought

to be considered by the committee, and a report made on it."

Mr. Logan: "A matter of this kind certainly every Senator in the Chamber is just as familiar with as the Committee on Post-Offices and Post-Roads. This is a mere resolution authorizing Senators and Representatives and Delegates to frank official letters sent to their constituents by them. That is what it embraces. How can the committee give any more information on it than there is in the resolution?"

Mr. Davis, of West Virginia: "I appeal to the Senator to allow the reference to be made; but if he prefers not, I reckon we had just as well take a test vote on it, and therefore I move that the joint resolution be referred to the Committee on Post-Offices and Post-Roads."

Mr. Logan: "I move, as an amendment to that motion, that the committee be instructed to report back immediately."

Mr. Conkling, of New York: "I have no objection to a reference of this resolution to the Committee on Post-Offices and Post-Roads; but if it is to be referred I agree with the Senator from Illinois that it should be with a direction of the Senate that it shall come back presently, a direction which I can not doubt is proper; and I say that for this reason: the whole question is whether we want the legislation of Congress to so continue that every clerk in a post-office, every clerk in a department from the head clerk of that department down, may send through the mails matters of public business, while at the same time the members of this body and of the House of Representatives shall be compelled to defray each from his own pocket the great volume of postage which is borne upon communications coming from the soldiers, the sailors, the widows, the beneficiaries under the pension acts, and other persons who send letters not touching our business but their business. That is the whole question."

Mr. Edmunds, of Vermont: "I think that the idea in a republic like ours that the representatives of the people are to be taxed for communicating with them about any matter of public concern, whether you call it official business or political business, is wrong. I believe the more you can encourage the people by carrying their letters and communications to members of Congress from and upon all possible subjects, the more good you do to republican government and the dissemination of intelligence upon which it rests. Therefore I have always voted against the abolition of the franking privilege, so called, and always voted in favor of its restoration, and I mean to do it again. We all understand how this notion of abolishing it got up. A few great city papers started it because they thought they would increase their circulation by cutting off as far as possible communication between Members and Senators at the capital and distant parts of the country; and it is a

strange thing, as the Senator from New York has said, that year after year by our own laws we have declared that the only public servants not fit to be trusted in communicating with the people about public affairs are Senators and Representatives. A head of department, any of the department clerks, everybody in the executive service of the country is thought worthy to be trusted to communicate concerning public affairs with everybody else through the advantage of the mails, it costing the United States nothing to carry the free communications except on a very few routes. It is true that the postage that you would force Senators and Members and citizens to pay, and which otherwise they would not pay, is so much loss to the accumulated taxation of the people. That is true; but I think that every cent that you lose in allowing a citizen to send to any Senator a letter on any subject of public concern—and we all know that ninety-nine hundredths of these letters are about subjects of public concern—is ten thousand times counterbalanced by the advantage that there is to a country constituted like ours in this absolutely free intercommunication. Therefore I am not afraid of the opinions of my constituents or anybody else on such a subject. The present course of procedure is very unjust to Senators and Members. Every chairman of a committee in respect of the absolute performance of his duties is taxed day by day. When I had the honor to be chairman of the Committee on the Judiciary, I found that I was taxed to the extent of several dollars a week, and I have no doubt my friend from Ohio [Mr. Thurman] is now to a large sum, in paying postage in respect to matters that we had no more individual concern in than a resident of France, but that the public had concern in. I am in favor of this reference and for an immediate report, in order that the committee may consider whether they shall not extend this right—I would not call it a privilege; rather a right and a duty—to all the correspondents of Senators and members of Congress; or if they think it unfit to do that, to be careful to define the word 'official' in some way, so that we can honorably and honestly understand it all alike as to what is covered by what is called 'official business' of Senators. I do not know precisely what that would mean."

Mr. Eaton, of Connecticut: "Mr. President, I have no doubt about the propriety of this resolution. I have been paying postage, as my friend from Vermont says he has been. I have done it to-day and every other day, as well as I can remember, for a long time past; but after the remarks which have been made here, is there any necessity to instruct the committee? In my judgment the committee will report as speedily as possible."

Mr. Thurman, of Ohio: "Mr. President, I have a little delicacy in speaking on this subject. My political life is so nearly at an end that it might be supposed I was interfering

with those who are to remain here. But I can not forbear making a remark.

"The franking privilege was taken away because it was so flagrantly abused. If there had never been any abuse of that privilege, it never would have been taken away. It was really misnamed a privilege; that is, in the sense of being a privilege of the members of Congress. It was the privilege of the people far more than of any member of Congress. It enabled the people to receive what they otherwise would not have received, in the form of documents and other information of the workings and doings of the Government. It was the people's privilege, and not the privilege of the members of Congress. But it was flagrantly abused, and when I say that I speak with some knowledge on the subject—and do not let anybody suppose that I am going to make a confession, for I am not conscious that I ever did abuse it myself—but it was so flagrantly abused that there was a demand, and I believe both political parties had a sort of struggle with each other who could go the farthest in advocating the repeal of that privilege.

"Some years ago (I will not say what year it was, but it was the year of a presidential election) I was passing, in the recess of Congress, through one of the corridors of this Capitol, and seeing three or four hundred people at work, sending off all sorts of matter, I asked a friend of mine, the chairman of the committee under whom these men were working, 'Won't you give me one of those bundles that you have put up there, and let me see what kind of food you are sending off to the people?' 'Why, certainly,' said he, and he told one of them, 'Give Mr. Thurman one of those bundles.' He gave it to me and I have it yet, and I could show that it contained not one single line of frankable matter; and furthermore, that in the case of one man whose frank appeared upon it, it was written in four different hand-writings, showing that four different clerks had been writing that man's name, and that man, as I know, was not less than five hundred miles from this Capitol at that time."

Mr. Logan: "At the time the law was repealed, it was done at the dictation of a few newspapers of the country and of a Postmaster-General, who sent out instructions to every postmaster in the United States to have a petition signed and sent to Congress to repeal the law, and the postmasters were instructed to get names to these petitions. That was the way it came to be stricken from the statute-book, and it was not for the reason assigned by the Senator from Ohio."

Mr. Thurman: "Has the Senator never heard of the speech of a distinguished member of the Government made to his constituents, a political speech?"

Mr. Logan: "I have heard of many of that kind."

Mr. Thurman: "Of one that was sent, as it was stated in the newspapers, by thousands

and hundreds of thousands under the official frank of a department?"

Mr. Logan: "What has that got to do with official communications from the departments?"

Mr. Thurman: "I should say that was an abuse of the privilege."

Mr. Conkling: "That was under the law as it stands now."

Mr. Garland, of Arkansas: "Mr. President, so far as the principle of the resolution is concerned, as I understand it, I indorse it; for, in brief, I think that Senators and Representatives ought to be entitled to the franking privilege upon all official business sent through the mails by them. But this subject is like most other subjects, the more it is considered the larger it grows. I once heard a soldier say as to the beef they got in the army, that the more they chewed it the thicker it got; so the more we masticate this subject the larger it seems to get.

"The joint resolution proposes to make an addition to a regulation that already exists. It would necessarily form a portion, either by an addition or an amendment of some character, of the postal laws that now exist in the United States. I am in favor of the Committee on Post-Offices and Post-Roads taking the joint resolution and incorporating its theory in the present existing laws and modifying it further, and in their own good time reporting it back to the Senate. In the first place the existing law provides that—

"Senators, Representatives, and Delegates in Congress, the Secretary of the Senate, and Clerk of the House of Representatives may send and receive through the mail free all public documents printed by order of Congress; and the name of each Senator, Representative, Delegate, Secretary of the Senate, and Clerk of the House shall be written thereon, with the proper designation of the office he holds, and the provisions of this section shall apply to each of the persons named herein until the first Monday of December following the expiration of their respective terms of office.

"There is one provision in reference to congressional documents. Then there is a provision relating to the Agricultural Department, as to how Senators and Representatives may transmit seeds, etc., through the mails. Then we have the 'Congressional Record' and extracts from that, which go free:

"The 'Congressional Record,' or any part thereof, or speeches or reports therein contained, shall, under the frank of a member of Congress, or Delegate, to be written by himself, be carried in the mail free of postage under such regulations as the Postmaster-General may prescribe.

"That by the laws is put under regulations to be prescribed by the Postmaster-General. Now, we have gone further, and provided that letters, etc., on Government business may go free:

"It shall be lawful to transmit through the mail, free of postage, any letters, packages, or other matters relating exclusively to the business of the Government of the United States: *Provided*, That every

such letter or package to entitle it to pass free shall bear over the words 'official business' an indorsement showing also the name of the department, and, if from a bureau or office, the names of the department and bureau or office, as the case may be, whence transmitted.

"What I have read embraces the features in reference to free postage. The difficulty in the proposition of the Senator from Illinois, it occurs to me, is that it is too loose, it is too liable to misconstruction; in other words, it is not sufficiently guarded in its language to make it safe. We have heard from several Senators who have been in the Senate longer than I have of abuses under these sections that I have just read as to letters, etc., on Government business. In order to make it, in common phrase, the more binding, the protection is to require an indorsement of the words 'official business' upon the matter, and there it ends with the signature of the person or persons sending it or a stamp showing that. If all the abuses existed in reference to this feature that were indicated by the Senator from Ohio [Mr. Thurman], and the Senator from Vermont [Mr. Edmunds], what may we not expect under the utmost scrutiny in the way of abuses under this phraseology indicated by the Senator from Illinois?"

Mr. Blair, of New Hampshire: "Does the Senator from Arkansas mean to be understood that we receive under franks speeches not made in Congress?"

Mr. Garland: "Yes, speeches and documents, and pamphlets of various kinds."

Mr. Blair: "Under the frank of members of Congress?"

Mr. Garland: "No, but under this section 249 from governmental officers. There is no one to determine whether the matter is 'official business' or not, or what kind of official business it is. In the section which I have just read allowing the indorsement of the superscription 'official business' upon official envelopes signed by the head of a department, or a clerk in the office sending them, no one is provided to determine whether they are on 'official business.' This joint resolution in regard to Representatives or Senators uses the same words 'official business.' It is possible that neither the Senator from Illinois nor any other Senator could go into enacting a law so as to define specifically what is meant by 'official business,' and what particular letters would come under that characterization. To protect against that in the matter of the 'Record' it is provided that that shall be sent under regulations prescribed by the Postmaster-General; but here this is left without any protection. It is not worth while for a Senator to say that we all know what 'official business' is, because we know in the practice of the law that words very simple in every-day use and common acceptance, when they are to be interpreted in law sometimes mean very different things, and are sometimes construed to be very different from their plain meaning.

"I recollect in the course of my reading to have seen that it was once a very grave question before one of the courts of England whether a turkey came within the designation of a bird, and after a long argument and long examination it was solemnly decided that a turkey came within the classification of the word 'bird.' It is possible some one might doubt as to whether, if I was writing to my constituents about a peck of oats, that could be deemed 'official business.' I might feel inclined, for the purpose of self-protection, to say it was official business, but the Senator from Missouri or the Senator from Tennessee might not think so."

Mr. Conkling: "Will the Senator allow me to make an inquiry? Am I right in supposing that he stated that speeches which are not a part of the 'Congressional Record,' not made in Congress, go free through the mail?"

Mr. Garland: "I say I have received under these superscriptions pamphlets of different kinds that it did not occur to me referred to any particular official business or any legislation in Congress or pending before either House."

Mr. Conkling: "But speeches?"

Mr. Garland: "Speeches."

Mr. Conkling: "Speeches not made in Congress?"

Mr. Garland: "Speeches not made in Congress; a speech made, for instance, before the Bankers' Association in New York."

Mr. Conkling: "Mr. President, if I understand the Senator from Arkansas aright, he says that he himself has received through the mail communications covered by the official frank of the executive officers of the Government, which communications contained no public or official business, but speeches made by somebody—I did not hear by whom—and not made in either House of Congress. Do I understand and report the Senator aright?"

Mr. Garland: "The Senator from New York quotes me with literal correctness, with this exception: that so far as I could see they pertained to no official business and no matter of legislation pending in either House of Congress."

Mr. Conkling: "Mr. President, if a stinging commentary, if a sharp and thorough criticism upon the absurdity of the law as it now stands were needed or possible, the Senator from Arkansas has pronounced that commentary. Here are provisions under which any and every clerk in the Post-Office Department and in every other department; every postmaster, every deputy-postmaster, every postmistress, every deputy-postmistress, every man, woman, and child, as far as I know, engaged in conducting the public business, may determine each by himself or herself at the time that it is 'official business,' place upon mail-matter a frank which exempts it from postage and carries it free through the mail wherever the mail goes on land or sea, or inland on water or on

horse, wagon, or stage-coach. How is this done? Not by the sign-manual of the person, not as the honorable Senator from Illinois is compelled to frank, what he is not privileged to frank, but compelled to frank in the course of his duty, by putting his name broadly upon it and the title of his office, so that everybody may know exactly the individual from whom that frank comes, but by placing upon it a printed stamp as good in the hands of one man as in the hands of another, a stamp which like money has no color, and leaves no track and no trace.

"I believe the Senator from Vermont [Mr. Edmunds] said that the men who make the laws are picked out as the only public servants unsafe to be trusted with franking official matter; and they whose business is, not even to interpret the laws but only to execute them, and that not only in the highest but in the most paltry function, they *en masse*, not some of them, but all of them without exception, are denoted by the law as safe and proper trustees and custodians of this franking power. And then, as if to cap the climax of absurdity, they are to do it, not by making a mark, not by putting an initial, not by signing a name, not by leaving a track or trace by which they can be known, but by an anonymous printed stamp, which one man's hands as well as another's can affix to a document. Thus you have it said that a Senator or Representative is not fit, although he signs his name, to exert this power, and that any and every other officer of the Government is fit without any sort of responsibility connected with the act, or any mode of identifying him; and thus, as might not unnaturally be supposed, although I should like to know, if I could, without prying into it unduly, from which department such a speech as the Senator refers to came, and who was the author of that speech, it turns out that speeches oratorical, political, didactic discourses made by we know not whom, whether as clectioneering documents for a party or electioneering documents for an individual, are sent out, not I infer in an exceptional case to the Senator from Arkansas, but sent out generally. It is possible that the Senator from Arkansas, ardent and well known as he is as a supporter of the present Administration, may have been selected from pure favoritism and a little compliment and decoration sent to him, a speech with an official frank, perhaps intended to make the Senator from Arkansas feel good, to let him understand that he was on a footing with 'the most favored nations,' that compliments and attentions were paid to him such as are withheld not only from the rest of his fellow-citizens but even from his brother Senators. But making all allowance for the distinction of the Senator, making deduction for his intimate relations with those who wield this franking privilege, I take it that the result of his statement is that generally and at large this particular

mail-matter to which he has referred was transmitted through the mail.

"Mr. President, I submit that if a condition of things could exist which would show plainly and clearly the peremptory and urgent duty of changing this condition of the statute, here it is. If any Senator will affirm by a bill that the franking privilege should be cut off altogether, that there shall be a special account of postage in every department, that each shall pay its postage and have it charged to that fund, so be it. I will not say I will vote for it, but I say it will be respectable comparatively; but to leave the law to stand as it does now, to leave the Senator from Illinois to be mulcted because he happens to come from a large and populous State, and because he happens to have been a distinguished military officer, which leads pensioners naturally to resort to him over the country—to leave him to be mulcted at the rate of ten dollars a week to pay out of his own pocket, not his own but official postage, while every head of a department is furnished with official stamps under which editions of speeches may be sent out and all manner of other matter, is, I humbly submit, an absurdity so gross and an injustice so indecent that it rightfully appeals to the self-respect of every Senator and of every Representative, and it also appeals to the regard that they have for the interest of the cripples, the mourners, the orphans, the pensioners of this country, who I think have quite as much right to receive, being exempted from the three or twelve cents it would cost to pay the postage on them, their pension papers as any Cabinet minister has, when he is moved to utter his voice to his countrymen, to command the means out of the public purse to send out an edition to fall like a snow-storm from the mail over the whole country."

The joint resolution was referred to the Committee on Post-Offices and Post-Roads.

In the Senate, on January 14th, a joint resolution appropriating \$2,500 to meet the expenses of the International Sanitary Conference at Washington was considered:

Mr. Davis, of West Virginia: "There is a letter here from the Secretary of State, which in justice to the committee ought to be read."

The Presiding Officer: "The letter will be read."

The Chief Clerk read as follows:

DEPARTMENT OF STATE,
WASHINGTON, December 27, 1880. }

SIR: In reply to your letter of the 21st instant, touching the joint resolution approved by the House of Representatives and now before the Senate, appropriating \$2,500 to meet the expenses of the International Sanitary Conference, I have the honor to inform you that the amount estimated for by this Department was \$10,000, or so much thereof as might be found necessary. The expenses which the Department will be required to meet under the joint resolution of May 14, 1880, will consist (besides ocean telegraphy incident to obtaining the responses of foreign governments) mainly of the employment of skilled stenog-

raphers and clerks capable of reporting speeches and propositions made in French or Spanish, and of the daily composition and printing of the protocols of the session. It is, of course, impossible to say in advance just how much these items will amount to. If the conference remains in session only a few days, it is possible that the sum appropriated by the resolution of the House of Representatives may be sufficient to defray expenses. But if the sessions are at all protracted, and especially if the discussions should take an extended range, the necessary cost of the most economical management of the conference might amount to the sum originally suggested by this Department. I have the honor to be, sir, your obedient servant,

WILLIAM M. EVARTS.

Hon. HENRY G. DAVIS,

Chairman of the Committee on Appropriations,
Senate.

Mr. Carpenter, of Wisconsin: "Mr. President, I find myself once more compelled to sit at the feet of the Democratic doctors on a constitutional question. I want to know from them what authority is conferred by the Constitution of the United States upon Congress to vote any money out of the Treasury for any such purpose. I want to know, in the second place, whether Congress can appropriate any public money for a cause over which and as to which it has no jurisdiction. I want to know, in the third place, who will vote for an appropriation of money touching a subject not committed to the Federal Government by the Constitution of the United States. I would be very glad indeed if any Senator on any side of this Chamber would furnish me the information in reply to those three questions, or either one of them."

Mr. Harris, of Tennessee: "It was my purpose to say that I had no hope of being able to give to the Senator from Wisconsin such information as will be satisfactory to him, having heard the views of the Senator upon previous occasions as well as upon this in respect to this question."

"If there be a constitutional warrant, as I have believed and still believe there is, for this appropriation and kindred appropriations that have been made, it will be found to rest upon the power to regulate commerce with foreign nations and among the several States."

Mr. Carpenter: "That would be touching the communication of diseases?"

Mr. Harris: "It is touching commerce; and if the Senator will take the trouble to investigate the legislation of Congress upon the subject of commerce (which he has doubtless done very many times, and is very much more familiar with it than I am), he will find that there are innumerable instances in which Congress has legislated regulating commerce in the interest of health and comfort as well as in other respects, regulations as to what passenger-vessels shall carry and what they shall not carry, all of which regulations are in the interest of human health and the safety of human life."

"But the power to regulate commerce the Senator and I can not possibly differ about. I do not think it probable we can differ very

widely as to the extent of the meaning of the term commerce, and what is embraced in it. Intercourse, travel, and whatever is connected with the travel of persons as well as the transmission of goods, is commerce, and falls within the scope of the general power that Congress has to regulate it."

"Upon a former occasion, where a similar question arose in respect to the creation of the Board of Health and clothing it with certain powers, the same question arose. Of course I do not pretend that Congress ever had the authority to appropriate money to any such purpose unless the things to be done, the powers to be exercised, are proper and legitimate regulations of commerce and falling within that clause of the Constitution, but I think that Congress has the power in the regulation of commerce to so regulate it as to strip it of elements dangerous to human health as well as those which are injurious to the pecuniary interests of trade or revenue."

Mr. Carpenter: "Mr. President, nothing is more ungracious and nothing more unpleasant than to be constantly compelled to interpose objections to things which everybody will agree are desirable to have done. Take the subject of agriculture. Everybody says it would be a good thing to improve it, and to improve the conveniences for carrying it on. So with education; so with public health; so with a thousand things, which in the frame-work of our Constitution has been left to the States and not conferred upon the General Government. If the proposition were to be submitted to amend the Constitution so as to commit the regulation of education to the General Government, I would vote for it. If the proposition were to be submitted to permit the United States to provide for the public health of the Union, I might vote for that; but when I came into this Chamber I was compelled under the rules of this body to go to the desk and swear to support the Constitution of the United States, by which I understood then, and understand now, that I took an oath that in any act or thing done by me as a Senator I would observe and obey the Constitution; I would exercise my best judgment and reason, and in all things act in conformity with the Constitution."

"Upon this question I can see no more power in Congress to enter upon the regulation of the health of the Union, or to invite conventions with foreign nations to consult with and advise us, any more than I can see the power to do anything in the world that you can demonstrate is desirable to have done by somebody."

"I believe sincerely that the prosperity of this country depends upon an honest and faithful observance of the constitutional distribution of sovereign powers between the great Republic and the States; and although \$2,500 for this purpose is a mere bagatelle, yet the vote of Congress appropriating any money for

such a purpose does strike a blow at the Constitution."

Mr. Davis, of West Virginia: "How about the 'general welfare' clause? Does not the Senator think this is just in that direction?"

Mr. Carpenter: "I refer the Senator to the commentaries of Judge Story, and to all writers upon that clause. If the general welfare clause gives Congress power to do what it thinks the general welfare requires, what was the object of enumerating what Congress may do? Upon that construction ours is an unlimited government. Judge Story, Federalist as he was, says that that construction would carry the Government beyond all restraint, because if Congress has but to say that the public welfare requires a certain thing to be done, then it has the power to do it—"

Mr. Hoar, of Massachusetts: "The Senator does not say that Judge Story was a Federalist, that is, in any technical political sense?"

Mr. Carpenter: "I do not mean that; but I mean that he was a Federalist in his construction of the Constitution—that is to say, he was for construing the Constitution so as to give it some power. So am I. He was for construing it so as to give full play to all the powers which the convention framing it and the people adopting it intended and attempted to confer upon the General Government, and there he stopped. Discussing this question, and the very clause to which the Senator from West Virginia refers, he says that if that construction be given to that clause, then the Government is an unlimited one; that it was utterly unnecessary to proceed and enumerate the powers which might be exercised by the General Government."

Mr. Saulsbury, of Delaware: "I desire to ask the Senator from Wisconsin if the phrase 'general welfare' was not incorporated from the Articles of Confederation, where it evidently meant general interest in contradistinction to the local interests of the several colonies, and whether it has not the same import in the Constitution that it had in the Articles of Confederation?"

Mr. Carpenter: "Turn to the preamble of the Constitution:

"We, the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defense, *promote the general welfare*, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America.

"Nothing can be plainer, it seems to me, than that this is the true construction of that clause. For the purpose of securing the ends recited here, the public welfare among others, this Constitution is adopted.

"Now we proceed to see what is the Constitution adopted. The Constitution creates Congress. It then gives Congress power to do all the things which they who framed this instrument believed were essential to promote

the common welfare, and so of all the other ends intended to be secured and reached by this preamble in the Constitution. It was a mere statement of the reasons which induced our fathers to create this Government, of the reasons which induced them to give these certain enumerated powers to the General Government; but was not intended to so provide the means by which these ends were to be secured. That was done by the Constitution. So Congress is authorized to raise money to secure the common welfare in the way the Constitution has adopted to secure the general welfare. And in no other way.

"Whoever construes this clause so as to say that whatever will conduce to the general welfare, Congress shall have the power to do that, must do it as to all other subjects, as to everything that will contribute to establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity. I ask what can be conceived of within the scope of governmental powers that will not contribute, if wisely conducted, to one or the other of these ends? In other words, if you hold the preamble of the Constitution as conferring power, this Government is as absolute as the Government of Great Britain. We have not a republic limited by the Constitution, its powers specified, and their exercise regulated, but we have a Government that can do everything which it deems necessary to promote justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, etc.; and what greater power has Great Britain?"

"That is the argument not of myself, but of Judge Story, upon this subject, and of all the men I have ever read who are regarded as authority upon the Constitution in discussing the effect of that clause.

"This whole subject of the regulation of health may be important, but to say that it is a part of the regulation of commerce, seems to me to be fanciful; it seems to be furnishing a pretext for doing what we have made up our mind to do and really have no power to do.

"The thing under consideration is providing for the public health, but he says this may be done because it is a mere incident to commerce. If you were regulating commerce in the proper sense of the word, by regulating the construction of ships, and the conveniences they should have, and all that, you would undoubtedly be authorized to take into consideration the effect of the construction upon the health of your sailors and passengers. That would be a part, a detail, an incident to the regulation of commerce in the proper sense; but we are not regulating commerce; we are not providing for the building of ships; we are not contemplating any such thing. We are contemplating the single subject of human life and of health, important, I concede. As I have said, perhaps I might vote for an amendment to the Consti-

tution which would confer the power, but I deny most respectfully that it is conferred. I deny that any man who is supporting the Constitution can vote for an appropriation in aid of any subject, no matter how important and generally useful, that is not committed to the jurisdiction of the General Government."

Mr. Garland: "Mr. President, the objections urged by the Senator from Wisconsin have been urged before, and a great many more. Some two years ago, when a similar question was up, everything that is said by him to-day and much more was said. He was not here at the time, I believe, to participate in that argument. The question was argued by a number of Senators on both sides for and against the general proposition, and every case was referred to and commented upon, from *Gibbons vs. Ogden*, in 9 Wheaton, down to the celebrated cattle case in 5 Wallace, on the subject of commerce between the States. The general power to take care of the health of the country was put upon three different clauses of the Constitution, one of which the Senator from Wisconsin has not referred to: first, the commercial clause, which was referred to by the Senator from Tennessee; second, the general-welfare clause; but clause No. 2 of section 10 of Article I was also referred to and commented upon to some extent by myself, and I was supported in that by Judge Story, the authority that has been referred to by the Senator from Wisconsin. That clause is as follows:

"No State shall, without the consent of the Congress, lay any imposts or duties on imports or exports, except what may be absolutely necessary for executing its inspection laws; and the net produce of all duties and imposts, laid by any State on imports or exports, shall be for the use of the Treasury of the United States; and all such laws shall be subject to the revision and control of the Congress.

"Judge Story said in the second volume of his 'Commentaries' on the Constitution that there was ample authority for the exercise of this power. It is now late in the day to urge an objection of that character. We have had sanitary regulations or a quarantine law, so to speak, ever since 1790 upon the statute-book of the country. In 1879 that statute was considerably enlarged by the Congress of the United States by an act entitled 'An act to prevent the introduction of contagious or infectious diseases into the United States.' That act was passed April 29, 1879. The following year that statute was considerably enlarged by a general health bill, which was reported from the special committee by the Senator from Tennessee, and which received the sanction of the two Houses of Congress with some amendments. On the 14th of May last Congress passed the following joint resolution:

"That the President of the United States is hereby authorized to call an international sanitary conference to meet at Washington, District of Columbia, to which the several powers having jurisdiction of ports likely to be infected with yellow fever or cholera shall be invited to send delegates, properly authorized, for the

purpose of securing an international system of notification as to the actual sanitary condition of ports and places under the jurisdiction of such powers and of vessels sailing therefrom.

"As I understand, in pursuance of that joint resolution this conference was invited, and in pursuance of that invitation the conference has met.

"It is now in session in the city of Washington. Now the question comes up, Shall we simply discharge an obligation upon us to meet the exigencies of this conference, which we have solemnly invited by three laws, and the constitutionality of every one of which was discussed, if I may be permitted to use such an expression, *ad nauseam*? The question now is, Shall we defray the expenses of that sanitary conference that we have invited to meet here? I do not see that at this day there is any argument left in respect to that matter."

Mr. Carpenter: "That is not the question I put. The question I put was whether the Constitution authorizes us to do it?"

Mr. Garland: "I think it does."

Mr. Carpenter: "Then I do not see that the other is the question. I agree with the Senator that if we ask a man to work for us, if we can pay him we ought to do it; but the question with me was, Where do we get the authority to do this? We are not giving our own money to pay these men. That would be very proper, and I should be very willing to contribute half of all I have got (and I should not be out more than the price of a cigar at that), but the question is whether I have got any right to vote the money of the people of New York for such a purpose."

The joint resolution was reported to the Senate without amendment, ordered to a third reading, and read the third time.

The roll-call having been concluded, the result was announced as follows:

YEAS—Allison, Anthony, Beck, Booth, Burnside, Call, Coke, Davis of West Virginia, Dawes, Ferry, Garland, Groome, Hampton, Harris, Hoar, Johnston, Jonas, McMillan, Morgan, Morrill, Platt, Pugh, Randolph, Rollins, Slater, Voorhees, Wallace, Whyte, Williams, Windom—30.

NAYS—Brown, Carpenter, Cockrell, Farley, Ingalls, McPherson, Pendleton, Plumb, Saulsbury, Saunders, Teller—11.

ABSENT—Bailey, Baldwin, Bayard, Blaine, Blair, Bruce, Butler, Cameron of Pennsylvania, Cameron of Wisconsin, Conkling, Davis of Illinois, Eaton, Edmunds, Grover, Hamlin, Hereford, Hill of Colorado, Hill of Georgia, Jones of Florida, Jones of Nevada, Kellogg, Kernan, Kirkwood, Lamar, Logan, McDonald, Maxey, Paddock, Ransom, Sharon, Thurman, Vance, Vest, Walker, Withers—35.

So the joint resolution was passed.

In the House of Representatives, on January 28th, the following bill was considered:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury be and he is hereby authorized and directed to pay, out of any money in the Treasury not otherwise appropriated, to Mrs. Elizabeth P. Page, widow of the late

Captain Hugh N. Page, the sum of \$136.85, being the balance of pay due the said Hugh N. Page, as captain in the United States Navy: *Provided*, Said payment shall not be made until the said Elizabeth P. Page files with the Secretary of the Treasury copies of her letters of administration, showing that she is the lawful representative of the said Hugh N. Page.

Mr. Brewer, of Michigan: "Mr. Chairman, I do not wish to take any great length of time in discussing the question involved in this case. It is simply this, that the husband of the claimant in 1811 entered the naval service of the United States. He served as a faithful officer until 1861, when the State of Virginia withdrew her allegiance from the General Government. He sent in his resignation, setting forth those facts to the Secretary of the Navy. The resignation was accepted soon after. After the resignation had been forwarded to the Secretary of the Navy he immediately entered the Confederate service. How long he served in the Confederate Navy I am unable to state. Whether he was killed in the service of the Confederacy or not I am wholly unable to state. But we find that he died at some time afterward, and that the widow now comes to Congress and presents her bill, asking that the sum due him when he sent in his resignation to the Secretary of the Navy shall be paid. There is no question between the majority and the minority of the committee but what there was due to Captain Page, at the time he resigned, the sum of \$136.85.

"In 1867 Congress sought to cut off and prevent the payment of all such claims, and passed an act which prohibited any department of the Government to pay any account, claim, or demand against the United States which accrued prior to the 13th day of April, 1861, in favor of any person who promoted, encouraged, or in any manner sustained the rebellion, or who during such rebellion was not known to be opposed thereto and distinctly in favor of its suppression.

"Now, Mr. Chairman, it may be stated by the gentleman who made the majority report, that the time has come for ordering otherwise. These claims were not to be paid 'until otherwise ordered,' and the gentleman sets forth in his report that the time has now come, in the judgment of the committee, when it should be otherwise ordered.

"I should like to know why it should be ordered now, any more than at the time the act was passed, that these claims should be paid. If it was right that these claims should be paid, then it was wrong to enact the law. If it was right they should not be paid, then it is no less right now.

"Our friends who make this report may come and say this is but a small sum, \$136.85. They may say that this lady who now presents this claim as the widow of Captain Page is poor and needy. They may seek to play upon the sympathies of this committee and of the House, so as to secure the passage of this claim. I know how easy it is to raise a sym-

pathetic feeling in the minds and hearts of members of this House. We saw it illustrated here in the passage of a bill, which but a little while ago was before the committee. And it is the fact that claimants come here before the House and before the Committee of the Whole and present but one side of the case, and appeal to the sympathies and hearts of the members for relief.

"Now, I say the widow of Captain Page could acquire no higher rights against the Government than those possessed by her late husband; and if it had been right to have paid this claim, then it should have been and would have been paid to Captain Page years ago, instead of its being claimed for the widow now. The same principles are involved upon this claim, and in this case, as would be involved if there was a million dollars concerned; no more and no less.

"We are establishing a precedent to-day, and if we pass this bill then we ought immediately to repeal the act by which the payment of this claim and those of others like it is prevented. If this claim is right, which is presented by Mrs. Page, then I say there are a thousand others who have equally meritorious claims, and they should be paid as well as this widow. I insist we ought not to attempt to do here in part, what we in my judgment, in this Committee of the Whole or in this House, will not do in whole, and what the country would not approve of our doing."

Mr. Goode, of Virginia: "Mr. Chairman, I regret that the gentleman from Michigan [Mr. Brewer] seems disposed to make such strenuous opposition to this little bill. What is it? If I can get the attention of the committee for a moment, I am sure that gentlemen on both sides of the Chamber will agree with the majority of the Committee on Naval Affairs that the bill ought to be favorably considered.

"And I want to say, Mr. Chairman, for the information of gentlemen on the other side of the House surrounding the gentleman from Michigan who has just spoken, that this is a unanimous report from the Committee on Naval Affairs, with two exceptions.

"It appears from the report that Captain Hugh N. Page entered the United States Navy as a midshipman in 1811. He was present at the battle of Lake Erie under Commodore Perry, and exhibited such conspicuous gallantry on that occasion that the Government voted him a sword. He remained in the service of the United States until the breaking out of the civil war in 1861, when he tendered his resignation for the reason stated by him, because his native State had adopted her ordinance of secession.

"Now just here let me say that the report of the committee is slightly inaccurate. I do not attach any blame to the gentleman from Michigan [Mr. Brewer]. He was misled by the report of the majority of the committee. Since that report was submitted I have been

informed that it was slightly inaccurate in this: it says that Captain Page entered the service of the Confederate States. That is a mistake. He was too old a man to render any service, being seventy years of age when the war broke out. All he did was to tender his resignation in proper form as an officer of the Navy of the United States; which resignation was accepted by the Government."

Mr. Hawley, of Connecticut: "Did he state any grounds in his resignation?"

Mr. Goode: "The only ground was that his native State of Virginia having adopted an ordinance of secession, he tendered his resignation as an officer of the United States Navy; that was his only reason."

"It appears that at the time of that resignation, which was accepted by the Government of the United States, there was a small pittance of \$136.85 standing to the credit of Hugh N. Page on the books of the department. It is not disputed by gentlemen of the minority of the committee that this money was fairly and honorably earned by Captain Page. It is not disputed by anybody that the Government owed it to him at the time of his resignation, and owed it for faithful services rendered during a long and brilliant career. He died with this little pittance standing to his credit. His widow now comes, as his legal representative, and asks the Government to pay to her, as the representative of her late husband, what was legally due to him at the time of his death."

"Gentlemen say it is a just claim; gentlemen say the amount is due; gentlemen say it has been fairly and honorably earned; but they are unwilling to pay it because of section 3,480 of the Revised Statutes."

"Now I submit to this Committee of the Whole, that it was never contemplated by the Government of the United States to confiscate for ever a claim like this. I apprehend the Government only intended to suspend, for the time being, the payment of such claims. Why? It was the period of reconstruction. The States had not yet been fully restored to the Union. Nobody knew then how many such claims might be preferred against the United States, and Congress in its wisdom, in 1867, thought that it would be good policy to suspend the payment of these claims until they should think proper to 'order otherwise.' They never intended to confiscate them. The Government never undertook to confiscate the property of any man who went into the rebellion."

"I claim that this is as much a debt due to the estate of Captain Hugh N. Page as if he had held the bonds of the Government at the time he died. It was to his credit upon the books of the department. He had earned it. He had rendered a *quid pro quo*, and it stood to his credit at the time of his resignation, and stands to his credit to-day on the books of the Treasury Department."

Mr. Conger, of Michigan: "Mr. Chairman,

one after another of these old claims comes creeping into this House, stained all over with the record of their disloyalty. When they come they always have their advocates. The reasons given for passing this class of bills are always plausible. If it is a claim on behalf of a college, it is an 'old college' that has educated great men, and the passage of the bill is demanded, and demanded by the gentleman from Virginia in favor of education. Year after year, day after day, William and Mary College is made the entering-wedge; and gentlemen are rallied to the support of that bill by plausible arguments in favor of education, in favor of antiquity, in favor of 'the first educational institution on the continent.' No matter what the subject may be, there are always plausible, eloquent, sympathetic reasons given for the passage of the bill. Generally there is great force added to the bill because it is a 'little' thing. I think I have observed—and if I am mistaken in this, the gentleman can correct me—I think as a general rule my friend from Virginia gathers all his intellectual forces around a 'little' thing. Because it is small, because it is weak, because it is feeble, he comes to its rescue with a chivalry worthy of himself."

• "Now, what is this case? What does it present to you, and to me, and to this committee, and to the American people? Sir, it is the history of an adopted son of this republic placed in command above his fellows, commissioned to rule over other citizens in the Navy of the United States. As a gallant young man, on the broad waters of the lake which bounds my State, he won distinction with hundreds of other men. Was the country ungrateful for his services? Far back in that war of which Lake Erie was the scene, Congress rewarded the valor of this young man, presented him a sword; encouraged him from that time thenceforth and for ever, while his hand had the power, to wield that splendid gift of his country given him in reward of allegiance, of fidelity, of valor—to wield it for the country which thus honored him, which thus glorified him, which thus told the world how the republic would reward its faithful and devoted sons. Years passed on—a half-century of honors, of promotion—until this man was elevated to the highest rank in the Navy which our laws recognize—honored, trusted, loved; and there came a time when in the madness of the hour, instigated by traitors, by rebels, that State of Virginia tore down the banner of the Union, and proclaimed to her sons that she set up an independent government for herself. Virginia, not the most deserving by far, but the most honored of all the States in the American Union, was the first to lay an unholy hand upon the banner of the Union and strike at its life. And this son of Virginia, for fifty years the honored representative of that State in the Navy of the United States, engaged then in upholding the flag of

his country, honored with the highest command which could be given to the son of any State, immediately upon hearing that the State to which he belonged had become dishonored—had become traitorous, had rebelled, had struck down the flag, had withdrawn from the association which had honored the State, not which the State had honored—resigns that high position, hands back to the Government with scorn and derision the honors conferred upon him, resigns his high commission, but carries off in his old trembling hand the sword which the nation had given him, carries it off to use it to strike the heart of the nation which gave it. [Laughter on the Democratic side.] Ah! those gentlemen laugh and sneer; perhaps they did the same. [Laughter on the Republican side.] I do not envy the smile that gathers upon the faces of some gentlemen on the other side of the House—the smile of their derision at the picture I have drawn. It is a becoming exhibition of the contortions of which the human face is capable under adverse circumstances. [Laughter.] It treats well of the wisdom and power of that Creator who can make a face subservient to the rule and will of the mind, which shall show a contrary feeling to that which exists within the breast sometimes. [Laughter.] Now, sir, that is the picture of this man.

"The gentleman says he was too old to engage in the Confederate service. He was not too old to resign and leave the service of his country. He was not too old to tell the officials of his Government that he did resign because his State was treacherous, because it was rebellious, and that he was hurrying to leave the service of his country that he might fling himself, old as he was, trembling as he was, paralyzed as he was, with his remaining vital forces into the arms of his treacherous and rebellious State, to aid it either by force of arms or by counsel and advice and encouragement.

"Ay, sir, it is reported to have been said by a distinguished general in the service of the United States, that the South had robbed the cradle and the grave to bring strength to their cause. Here was this man not yet in the grave. Here was this man who had gone to Virginia to aid Virginia in its treason. The law said to all such men and all officers of this Government, a law enacted and re-enacted: If you will thus, in the day of your country's emergency and danger, forsake your post of duty, there shall be no payment made to you for services either past or present. That law for twenty years almost has stood on the statute-book of the nation. That law for six years almost standing there has never been attacked by any man whose face now lights up with sneers at what I say. There is boldness among you, infinite boldness; but no man has had the courage to propose the repeal of that section. No man has dared to stand up before the American people and declare that law was improper or unnecessary, or ought to be repealed.

It remains to-day, sir, for the gentleman from Virginia—"

Mr. Goode: "If the gentleman will allow me, I think he is in error in that statement. It is my recollection that repeated efforts have been made to repeal section 3,480 of the Revised Statutes. Repeated efforts have been made in the other Chamber if they have not been made here, and there the question has been debated, but postponed and defeated in various ways."

Mr. Conger: "If there is such an effort, it is of record. I ask the gentleman for the record. I never heard of it in this Chamber.

"No, sir, the American people do not wish that law repealed. If that side of the House desire for any purpose, and so inconsiderable a one as this, to be on record for the repeal of the law which no hand has dared to touch for twenty years, I invite them to the issue. It seems to me as if the infinite variety of blunders of the Democracy would insure their ruin without any effort from our side of the House; and I say, let them put their votes on record, even in this case, which is an entering-wedge for thousands and hundreds of thousands of dollars to be taken out of the Treasury to pay up for the rebellion which is past."

Mr. House, of Tennessee: "It seems to me that this discussion has taken a very wide range, and aside from the merits of the case now before this committee. To what the gentleman from Michigan has seen fit to say on this occasion in reference to the South and in reference to this side of the House I care not to reply. It is not the first time that that gentleman has bawled himself hoarse in that case. It is not the first time the bloody shirt has been invoked by that gentleman to cover the cause of injustice.

"What is the case before this committee? It is the case of an aged widow asking—for what? For the pitiful sum of \$136 which this Government owed to her dead husband—owed before there was any war of the rebellion—for services that he had rendered his country. Nobody disputes that. She is the widow of a man who had reflected honor upon his country's flag in the past. This claim is for services he then rendered.

"Does the Government owe him that money or not? Does anybody dispute that the Government owes it? Suppose, Mr. Chairman, that I owed you the sum of \$136, and you and I were afterward to have a dispute or a falling out, and in order to punish you I repudiated the debt and refused to pay it. Between individuals such conduct would be infamous. Shall the Government place itself in that position toward this old widow?

"This Government has never attempted to confiscate this debt. If it had been confiscated, confiscation could not have lasted beyond the life of this officer; his heirs would have been entitled to it. Whatever may have been his faults, or whatever in the estimation of gentlemen may have been his crimes, he has passed

beyond the praise or the censure, the reward or the punishment of the House.

"His aged widow is now here asking for the payment of the sum of \$136 which the Government owed her husband for services he had rendered. That is the question. This House can refuse to pay this claim. The claim is seized upon by the gentleman from Michigan [Mr. Conger] as an occasion for delivering to this side of the House a lecture, and to vent what seems to be his inexhaustible spleen against the South and the cause of the South upon this side of the House, which has Southern Representatives. This claim is made the occasion of the long speech which he has delivered here—the claim of the old widow of an officer who reflected credit upon his country; the widow now coming here and asking the Government to pay the small debt that it owed to her dead husband.

"It does seem to me that there could not be a more meritorious claim presented to Congress than the claim of this old widow. I have nothing more to say about it."

Mr. S. S. Cox, of New York: "When, sir, are we to have peace? Just after the war, as we all know, General Grant reported that the Southern States were anxious for contentment and deserved confidence and amnesty. He was solicitous, willing to be at peace and amity with them, and they with the rest of the Union. They needed peace to give to their toil its reward, and our good-will to give them those interchanges which build up a common prosperity. Have fifteen years made no difference with you of the other side? Are you jealous because the South is growing in population and prosperity, in planting, manufacturing, and commerce; that her cattle, cotton, and corn are enriching her abundantly? Surely not. Why, then, this continual debate, as if their interests and ours were not one?

"What is the object of opposing this bill? The debt is not disputed. What can be the object in trying to cut down or deny this little claim of an old widow, a claim of \$136.85? Is it only a pretext to display old animosities? Was there ever such monstrosity built on so small a foundation? Is it not time to have a better spirit in reference to the relations between North and South?

"When General Butler was in our midst on the other side, and we debated a bill to restore to men who had been in the rebel army the old swords which they had worn gallantly in the battle of New Orleans, he favored the measure with touching and patriotic eloquence. He had the spirit of true soldierly chivalry. He said, 'Give back to the old soldiers the swords they wore in the war of 1812'; and men on both sides applauded the patriotic sentiment. What would he say were he here today?"

Mr. Chittenden, of New York: "I know a little historic incident connected with the outbreak of the rebellion which has some perti-

nency and a lesson for my friend from Michigan [Mr. Conger]. I knew a merchant in New York who sat by the side of an old commercial correspondent as the wires were about to tick that Virginia had seceded from the Union. The Virginian said, 'What shall I do if my State secedes?' The merchant said: 'If you have purchased your goods, take them and do the best you can; no man who knows you will refuse to deliver them even after Virginia has seceded.' Within half an hour the news came that Virginia had seceded. The Virginian then said to the merchant, 'You of course will not trust me now.' The merchant said to him: 'You purchased the goods fairly on yesterday. I will send them, and I will take all the risks. I have known you for ten years, and know that you will pay for them if you can; let the consequences be what they may, every dollar of the merchandise shall go if you want it.' It did go.

"Five years after the war was over, or perhaps three, this merchant of Richmond, Virginia, Breeden by name, a thorough rebel who gave his all for the success of the Confederate cause, returned to the merchant in New York and paid for the goods, every dollar, principal and interest.

"Now, it seems to me that if there be a widow asking for \$136 honestly due her husband who was an officer of the United States Navy, a debt for services which preceded the rebellion—if this Congress refuses to pay the debt, they, in my judgment, do an act which appeals to the manhood outside of Congress to see that another Congress shall find a way to pay it with double interest." [Applause on the Democratic side.]

Mr. Bragg, of Wisconsin: "This is a question, Mr. Chairman, in my judgment, which is, as I have said, a question involving a principle. It is a bill which involves, it is true, a very trifling amount.

"It was not the stamp-tax that brought on the Revolution. It is the principle involved and underlying this thing. Shall we wipe out all legislation which prevents men once in the service of the United States, and who abandoned their duties, from coming back again as claimants upon the public Treasury, because, forsooth, the leader of the claimants is a lady, old and gray, whose husband, in his youthful days, did serve his country with honor and distinction? If we do away with the principle here, where shall we end? If we pay this woman because she is old, if we pay her because she is needy, that is one thing. But if we pay her because she was the wife of an officer who resigned, and under whose resignation there comes up this bill and penalty which deprived him of his pay, he having placed himself in the position of suffering the penalty, that is another thing."

Mr. Davis, of North Carolina: "Was there any such law in existence at that time; any law that would deprive him of his pay?"

Mr. Bragg: "There was this law, and it is recognized everywhere, that he who deserts his country's flag in the hour of his country's peril is entitled to no respect from that country afterward, except such as she gives him by a mere generosity and as a gratuity."

Mr. Davis, of North Carolina: "If there was no such law, then there is a constitutional right."

Mr. Bragg: "Mr. Chairman, I am not here to discuss the Constitution. If I were, I should say that the gentlemen who broke the Constitution and fled from it are not the men to hold it before me and ask me to support it. [Applause on the Republican side.]

"If this bill pass, there is no man who was in the American service, whether civil, military, or naval, but will come back to the Treasury of the United States for something which may have been due him for some few days before he deserted his country.

"I am anxious, Mr. Chairman, as anxious as any man in this House, never to see again or hear of the subject of the Southern rebellion. It strikes me as deeply and keenly as any man upon the floor of this House, and I would fain wipe it out for ever from sight and memory. But I say to my friends from the South, that when you want to end this controversy, when you want to close up these memories, it is no proper way to do it by bringing forward claims here and presenting them for consideration which keep alive those memories by constantly stirring up something that involves the discussion of the rebellion and the troubles which have grown out of it."

Mr. Goode: "I move to recommit the bill to the committee. On that, I believe, I have a right to be heard.

"Now, Mr. Speaker, since the discussion of this bill on last Friday, I have received a letter from the widow of Captain Page, in which she instructs me peremptorily to withdraw her petition. If I felt at liberty to consult my own feelings or be guided by my own judgment in this matter, I would without hesitation press this bill to a final vote in this House, because I believe her claim to be a perfectly valid one, and the Government is bound to recognize it by every consideration of justice and fair dealing. But I feel constrained, as I have stated, to obey the instructions I have received from this petitioner. The House will readily understand and fully appreciate the motives which have impelled her to this step. Her feelings have been so wounded by the fierce assault made upon the memory of her dead husband that she is no longer willing to furnish any pretext for a renewal of that assault. Her petition would never have been presented here if she could possibly have foreseen the result. She had not the remotest idea that the simple presentation of a humble petition for payment of a just debt by this Government would be seized upon and made a pretext for a rude and violent attack upon the cherished memory of

the honored dead, or harsh and uncharitable comments upon the character of the Southern people. She prefers to relinquish that claim for ever, and allow the Government to hold in its coffers money fairly and honorably earned by her husband, rather than afford any excuse for an attack upon his good name, which she holds more precious than money or even life itself.

"Now, sir, with the permission of the House, I want to make a single remark with reference to myself. Since the debate of last Friday it has been charged by Republican newspapers throughout the country, and it was intimated in that debate upon the floor of this House, that my object in presenting this petition was insidiously to establish a precedent for the payment of Southern war claims.

"I want to say to this House and the country that no charge could have been more unjust and more destitute of any foundation whatever. I presented that petition because it was my representative duty to do so after it had been sent to me for presentation. I presented it because I believed the country justly owed the amount of money named to the estate of Captain Page. I presented it because I believed section 3,480 of the Revised Statutes to be clearly unconstitutional and void, so far as claims of this character are concerned. I presented it because I utterly deny the power of the American Congress to pass any *ex post facto* law or bill of attainder. I presented it because I did not suppose that a single representative of the American people could be found who would be willing to withhold from this lady money honestly earned by her husband in the service of his country, especially as by that service he had illustrated American prowess, and shed additional luster on the American name."

Mr. Conger: "Mr. Speaker, I have nothing to reply to the remarks of the gentleman from Virginia if he says that he never has in this House presented or advocated the payment of war losses or war claims so called, with this statement that he excepts from that, because he does not consider them war claims, two cases he has advocated here, one of them the William and Mary College claim, which we all remember, which the country remembers, which was thundered through this land from North to South, exciting apprehension and fear in every hamlet in the North of the consequence of passing such a law, and exciting hope and expectation in the hearts of ten thousand men in the South who had war claims in which they were interested. I say I have nothing to say in reply to the remark of the gentleman from Virginia that he has never advocated war claims. Of course, we look upon the name of these war claims and war losses differently, and I give the gentleman the full credit for his avowal upon that subject according to his own construction.

"But, sir, when the gentleman stands there

as the representative and mouth-piece of all Southern representatives on the floor, when he assumes to rise in his place and claims to speak for all Southern men here and all through the South, and says that they do not now press, and they never have pressed, war claims properly so called—that they have not done so in every possible combination of language and words, by bills and memorials and petitions, that the human mind can conceive—the gentleman must allow me to question whether he does represent the people of the South, whether he does represent other representatives of the South on this floor, whether he does represent the millions of people of the South interested in the passage of war claims.

"I say that the time has come, if these statements are correct, and if the gentleman does speak for the whole South, that the wagons and the carts and the wheel-barrows should be brought here, and this accumulation of petitions, memorials, bills, and affidavits, and proofs that now fill the pigeon-holes in the room of the Committee on War Claims should be taken away. Yes, sir, I would like to see the procession formed. I would like to see the representatives of the South who have presented petitions and memorials and bills favoring the passage of war claims and the payment of war losses take their bundles of papers and march with them away from that committee-room and away from the Capitol. And who would be left out of that grand and solemn procession? I can myself imagine the whole Democratic side of this House in marching order, carrying back to their constituents the petitions and the memorials and the bills and the proofs, marching off to Long Bridge to the music of 'Carry me back to old Virginia, to old Virginia shore.'" [Great laughter.]

Mr. Goode: "I move to lay the whole subject upon the table. I think that ought to be satisfactory."

The Speaker: "The question will be taken on the motion to lay on the table."

The motion was agreed to.

In the Senate, on February 15th, the House bill to facilitate the refunding of the national debt was considered:

Mr. Bayard, of Delaware: "Mr. President, in little more than sixty days from this date a loan of the United States, bearing 5 per cent interest, and amounting to \$469,651,050, will, at the option of the Government, become payable. On the 30th day of June next two other loans, each bearing 6 per cent, the first for \$145,786,500, and the other \$57,787,250, will also mature at the option of the Government. These facts are stated in the last report of the Secretary of the Treasury, and will be found on page 10 of his report of last December. He has informed us that the surplus revenue accruing prior to the 1st of July, 1881, will amount to about fifty million dollars, and can and will be

applied in part to the extinguishment of that debt. Bonds maturing on the 31st of December last were paid out of the accruing revenues. So that there will remain the sum of \$637,350,600, to be provided for and funded at the option of the Government at such rate of interest as may be deemed advisable by Congress and can practicably be obtained.

"The sums that we are dealing with are enormous, affecting the welfare of every branch of our country's industry and of our entire people. The opportunity for reducing the rate of interest upon this enormous sum, and not only that, but of placing the national debt more under the control of the Government in regard to future payments, is now before us. The opportunity for doing this upon favorable terms should not be lost, and the only question before us as legislators is how we can best and most practically take advantage of the hour.

"Two propositions have been made, one by the House of Representatives and one from the executive branch of the Government. The Secretary of the Treasury, at page 12 of his report, has recommended the refunding of \$400,000,000 of the national debt at a rate not exceeding 3·65 per cent.

"It is also recommended that authority be given to sell at par an amount not exceeding \$400,000,000 of bonds of the character and description of the 4 per cent bonds of the United States now outstanding, but bearing a rate of interest not exceeding 3·65 per cent per annum, and redeemable at the pleasure of the United States after fifteen years, the proceeds to be applied to the payment of bonds redeemable on or before July 1, 1881.

"The House of Representatives has proposed that we should fix the rate of interest at 3 per cent, and make the bonds payable in ten years, with the option to the Government to redeem them in five years. Upon careful deliberation, and considering all the arguments from every respectable source that we could obtain, the committee of the Senate have modified both the proposition of the Secretary and the proposition of the House. We have reported to the Senate the issue of the \$400,000,000 of bonds recommended by the Secretary and the House, but we have fixed the interest at 3½ per cent, being a shade lower than that proposed by the Secretary and a slight increase upon the rate proposed by the House, and we have fixed the time of payment at twenty years instead of ten, with the option of paying the debt at the end of five years. The term five-twenties would therefore continue to be applicable to this form of the national debt, and one as to which having had experience of a most favorable character, and to which the people of the country have become accustomed, it was thought that feature alone gave it weight and increased the probability of its success.

"There are various reasons for this. Opinions have differed, and always will differ, as to this matter. Intelligent and patriotic men believe that it is practicable to fund the whole of this debt at the rate of 3 per cent. Others

again, equal to them in experience, ability, and opportunities of judgment, have told us there would be risk in the attempt. Speaking for myself and for the majority of the committee, we believe that the weight of authority is in favor of running no risk, and that the rate of $3\frac{1}{2}$ per cent per annum is that which under all the circumstances it is wiser and better for the United States to adopt in order to obtain freely the desired loans from the public.

"Consider for a moment the experience of other nations in this regard. At the head of the commercial world is the Empire of Great Britain. Nowhere has government been more permanent or its institutions more stable, or the certainty of the repayment of loans and indebtedness secured by law more perfectly. The conditions, therefore, of low interest have been as perfect there as human institutions have ever been able to procure; and yet what is the result? When, in the last half century, the especial period of her progress and success, have the consols of Great Britain not paid more than 3 per cent to the investor? Yet those bonds have a feature which is denied to our own, and for my own part I can not regret it, and that is, the creation of a *permanent* debt. During the last fifty years the loans of Great Britain have touched par, I believe, but twice.

"It may be stated in regard to the rate of interest returned upon the investment of English consols that it has varied between 4 and $3\frac{1}{2}$ per cent. I am speaking now of the return upon the cost of the British consols to the investor. Sometimes it has paid more than 4, and sometimes even less than 3 per cent, but those have been the extremes of depression and exaltation of price. It may be said upon authority that the investor in British consols has during the last quarter of a century received on an average rather more than $3\frac{1}{2}$ per cent income.

"At page 5 of a pamphlet containing the report of an interview between the Secretary of the Treasury, the Comptroller of the Treasury, and the Treasurer, with the Committee on Finance, will be found a statement taken from the London 'Economist' of the 6th of November, 1880, to which I invite the attention of the Senate as corroborating the statement I have made.

"I have drawn the attention of the Senate to the fact that the consols of Great Britain offered to investors permanence and absolute security, not simply ultimate security, but that security which can be availed of at almost any day; and with these two elements so favorable to a low rate of interest they have not been able to maintain at par a loan at a rate of interest which it is proposed now to issue and maintain at par in this country. I shall ask the Senate to consider the difference of conditions in this country and Great Britain as affecting our bonded debt, and to show that we can not safely permit that fluctuation in prices

which to their government, under a system of permanent indebtedness, is a matter of absolute indifference. There are conditions in this country which render it imperative to maintain our bonds at par or over par. The Secretary of the Treasury has spoken of the traditions of the country and its policy to maintain our bonds at par. That statement has the authority of the country's history, but there is something more practical and practicable than mere tradition and policy. There is an absolute necessity for us to see to it that as we have tied our systems of banking and currency to the fate of our national bonds, they must stand or fall together. The currency of this country, upon which the main part of its business is conducted, and to which it has been made essential, is based upon the national credit. That currency is obtainable only by the deposit of national bonds, 90 per cent of currency being issued for 100 per cent of bonds upon their face value, and the sense of security so absolutely found in the excess of value of the pledge, the responsibility of the shareholder, and the reserve established by law, have made this credit money of the Government national-bank notes receivable with absolute and unshaken confidence. Senators, that confidence existing almost solely upon credit, must not be disturbed. We have to-day what is called a resumption of specie payments, but, to speak more accurately, we should call it a redemption of notes that are at once reissued at the will of the debtor. How is that resumption assured? It can not be said to be assured by the coin in the Treasury. We had at last accounts in gold coin and bullion \$140,952,837, and of standard silver money \$47,084,459; and that is to answer for \$346,000,000 of demand notes, and ultimately for the \$350,000,000 of notes issued by the Government through the national banks. What, then, is to-day our security that resumption can be maintained? Not the coin in the Treasury, surely; but the existence of the power secured by the act of January 14, 1875, that gives to the Secretary of the Treasury the right to sell Government bonds bearing 4, $4\frac{1}{2}$, or 5 per cent interest, to *any amount* necessary to buy gold and pay the United States notes whenever presented at the Treasury. It is, therefore, this potentiality standing in impressive and powerful reserve that overshadows any attempt to make what is called 'a run upon the Treasury' or endanger the permanence of resumption; and yet, bear in mind, those bonds, which under law are to be sold in order to supply the exigencies and meet the demand for gold, can not be sold at less than par. Therefore I say that we should permit nothing to go upon the statute-book, and take no step in the management of our finances, that even tends to send our bonds below par, because the par value of those bonds is essential to the absolute maintenance and security of specie resumption. It is the power to sell those bonds

under the act of 1875 that stands as the *corps de reserve* to enable the Government to pay specie for its notes on demand, and cause them thus to be an equivalent for specie. Under the free-banking system now in existence, the volume of our currency depends upon commercial demand and not upon political exigencies. Except for wise restriction as to the securities for loans and supervision as to reserve, the affairs of the banks styled 'national banks' are managed and controlled by the rules only of enlightened self-interest. They loan to whom, and as often, and as much as the directors elected by the private stockholders see fit—no more and not otherwise—and the Government has no voice or control in their affairs except in the manner that I have referred to; that is to say, supervision of the securities for loans and as to the reserve. In other words, to restrain them from conversion into trust and loan companies instead of banks, and unfitting themselves for the true functions of banking.

"I say, then, if nothing else must be looked to, the duty of placing resumption of specie payment beyond doubt would be worth ten times the amount of the difference between 3 and 3½ per cent, and I hold that we have no right to run any risks on this point; and as I have said and believe, the weight of opinion is against our running such risks as we would do if we adopt the rate of 3 per cent. Why should we take a step in the dark when it may be taken so clearly in the light? Why should we create a ripple upon this placid stream of prosperity upon which the affairs of our country are now floating? There is neither wisdom nor economy in taking steps that tend to check in the minds of the American people confidence in their progress and prosperity. Let us only take such steps as we can to justify that confidence, and secure them against retrogression.

"Let us solidify our credit, and secure our bonds and our credit moneys against depression and possible fluctuation. Wise, moderate, and timely legislation can do this.

"The rate of interest is, after all, controlled by the average rate of profit derived from the employment of capital. The profit of employing capital in industrious undertakings controls the rate of interest. A high rate of profit will always cause a high rate of interest. There is history for that. Where you have a low rate of profit, the interest for the employment of money necessarily will be less. The Dutch were the leaders of the commercial world in the seventeenth and the greater part of the eighteenth century; but they had resorted to a system of overtaxation, and, burdened by taxation, but little profit was left for the employment of money; and the result was that, as after all there is but a limited profit in production, and that profit must be shared by labor and capital, the rate of interest fell to an extraordinarily low rate; but where taxes were lighter, the employment of money was more

profitable, and the rate of interest increases in corresponding ratio with the profit on the use of capital.

"Under certainty of law for securing the prompt repayment of loans, interest is low; for it is not the ultimate security, but it is the punctual and reliable payment of money expected that makes the rate of interest low. Money will be cheap where confidence is established. The more absolute the security, the lower will be the rate of interest. I hold it that the demands for the employment of capital in legitimate enterprises all over the United States under this all-pervading sentiment of confidence that exists now, will make a Government loan at 3½ per cent equitably low enough. Money in the United States securely invested will be worth on an average—I am speaking now of business investments—anywhere 5 per cent, and in some parts of this country from 6 to 7 per cent, and this last only in the newly-settled districts. The United States is a younger country than Europe; it is more progressive; newer enterprises in the development of the natural wealth of this country necessarily exist here than in longer-settled countries, and employment of capital will find 'fresh fields and pastures new,' and the profits of industry are greater in the United States than elsewhere. The superiority in profitable employment of capital, therefore, in this country justifies a rather higher rate of interest than it would in Europe.

"We are sometimes told, 'Look at the present advanced value of the 4 per cent bonds; take them as your standard; they are now worth 113 in the market; if a 4 per cent bond is worth that, surely a 3 per cent is worth par,' etc. Why, as a matter of fact, has not this agitation of the issuing a 3 per cent loan been diligently and clamorously used for the last year—I do not say improperly, but vigorously used—as a species of menace to enhance the price of the 4 per cents? If there should be a compulsory power exercised by this Government, which I deprecate, toward the stockholders of the national banks to force this loan upon them as the single and arbitrary condition of their continuing in business or going into ruinous liquidation; if that power does exist, necessarily men will value that which pays them one fourth more interest, and the price of the bond that secures it will be necessarily advanced. Therefore I am compelled to consider the present price one of those fluctuating advances, temporary in its nature and caused by the abnormal and unsettled condition of things, that has given the 4 per cent bond the advance from par, at which it was sold, to the great premium which it now enjoys. I do not think it is either sound judgment or reasonable common sense to take the present advanced price of the 4 per cent bonds as a basis for calculation for the sale and maintenance of the price of 3 per cent bonds.

"I would here note that section 5 of the

House bill contains what I have spoken of as the compulsory power of the Government proposed to compel subscription to its loans. In section 5 of the House bill, which has been stricken out by the Senate Committee, it will be found that the bonds bearing 3 per cent were to be '*the only*' bonds receivable as security for national-bank circulation, compelling the banks to exchange any bonds bearing a higher rate of interest for those bearing the lower rate. That was intended to create an involuntary market for some two hundred and sixty-nine million dollars of these bonds. I did object, and do now to this, and the committee have reported against this compulsory feature, and I think they were wise and right in doing so. The exhibition of compulsory power, arbitrary power by a government over matters touching its credit, has never proved of ultimate and permanent value. It has rather suggested distrust, and lack of confidence in its own credit, that you should pass from our voluntary and free system of government to the involuntary and tyrannical; and there is in this compulsory action proposed toward the stockholders of the banks, created by act of Congress, an interference with their rights of private contract and the spirit, if not the letter of their chartered rights, which is discriminating and, in my opinion, unjust, unwise, and inexpedient. The real strength of this Government lies at last in the hearts of the people of the country; it can not be created and established by compulsory statutes; and we must and we ought to leave every class of our citizens, rich and poor, in this land, free to deal with their Government on equal and general terms applied without discrimination to all alike. The bonds under the present act as proposed by the Senate Committee on Finance will be receivable as security for circulation, and will be used as its basis as heretofore provided by law in relation to other interest-bearing bonds of the Government.

"Mr. President, it is shown that the expenses of the late refunding operations amounted to about three eighths of 1 per cent, and the tables of similar expenses, both in our own history and in the history of other governments, show that such an operation was never before conducted at anything like so low a rate. I do not mean to say that there has been nothing gained by experience, or that we should continue expensive and ancient methods, or that we should test the reasonableness of this expense wholly by the past; but I do mean to say that upon examination no candid American will complain of extravagance in the late accomplishment of refunding. I do not mean to say that the same rate of three eighths of 1 per cent may not fully cover the entire expense of carrying this act into effect; but I do say that for the matter of one eighth of 1 per cent we ought not to tie the hands of our agents when we compel them to make due return to us of every dollar expended, and it would be

both an unwise suspicion and an injurious act which would tend to jeopardize in any degree a transaction so vast and important as this under the possibility of restricting the cost by withholding one eighth of 1 per cent.

"I have not been able, had I been willing, but I would not have been willing, to consider this great question by the narrow light of party. I would not be willing to make cheap reputation out of mere party prejudices in dealing with a question like this, or to gain unthinking applause by suggestions of recklessness, extravagance, or something that is worse than either upon the part of high officials charged with a great and important duty to be exercised in the light of public examination with returns for every farthing expended under their responsibility. For that reason, while desiring every just economy, while not affecting to deal with easy liberality as to moneys I am not to pay myself, and being generous with the means of others, I still am not willing, in contemplating the results as are necessarily embraced in these immense and important operations to the people of this country, of so dealing with a gigantic debt; I am not willing to treat those who are to be the practical and responsible agents in the adjustment of this matter with undue or unworthy suspicion, or, I may add, to bind them down with undue and improper restrictions. There is a proportion to be observed in all things; and we are not bargainers with mere brokers when we place a moderate discretion as to the expense of this great business in the hands of high officials who are presumably men of self-respect and character.

"If in the future practical conduct of this business there should be a check in the smooth and successful operations of this refunding project because of the withholding of some small eighth of 1 per cent which being paid would secure success, and being withheld would frustrate it, I mean to say that responsibility shall not rest with me, nor do I envy the man who shall hereafter feel that it rested with him. For that reason, as faithful counselors and trustees of the interests of the American people whom we represent, we may fairly say to the Secretary of the Treasury, If you shall be able to effect this great operation, reducing the rate of our interest and confirming our Government credit at a cost not exceeding one half of 1 per cent, to that limit you may go, within that limit stand as far as you can, and go before the people of this country as a faithful administrator mindful of the needs and interests of those whom you represent, and take whatever of shame or glory shall come to you from your performance of that duty."

Mr. McPherson, of New Jersey: "The object of the proposed legislation is to complete the refunding of the national debt. Two hundred and two millions of 6 per cent bonds issued at the beginning of the war are about to mature, and four hundred and sixty millions

of 5 per cents issued under the refunding act will become redeemable on the 1st of May next.

"The duty of Congress, to my mind, is very plain, and may be stated in half a dozen sentences.

"First, the bond to be issued should bear the lowest possible rate of interest under which, considering also the period of time fixed for its payment, the Government would receive its par value in exchange for it.

"A 3 per cent interest-bearing bond, having forty years to run, with such earlier option on the part of the Government, not less than ten years from the date of issue, to pay it, would, in my opinion, meet this requirement, and in a short time command a premium.

"In proof of this we need only point you to the 4 per cent bonds, which were taken as a speculation by a syndicate for a large commission less than the par value, and are to-day sold in open market at such a premium as scarcely makes them a more profitable investment than a 3 per cent bond at par.

"Does it not also prove that should Congress authorize a funding loan bearing 3½ per cent, the bonds so authorized would, after passing into the hands of a syndicate, advance in the market to a price at which they would not yield over 3 per cent on the investment, and that it would thus be demonstrated that the Government might have saved the one half per cent per annum which investors and speculators had gained?

"Were it not for the lingering hope that the predictions so freely made, which I regret to say have not been dissipated by the Finance Committee of the Senate, that a 3½ per cent bond would be offered at par, no doubt would now be expressed in respect of the market value of a 3 per cent bond.

"With the whole bonded debt under the conditions now existing, selling so nearly on a 3 per cent basis, no other arguments beyond this simple fact seem to be required to sustain the belief that a 3 per cent bond of the United States can be negotiated at par.

"Confronted by this fact, the Finance Committee of the Senate inclines in favor of a 3½ per cent bond, and virtually ask the Senate to join it in a *bear* crusade upon the national credit. I read from the report:

"The Secretary of the Treasury is hereby authorized to issue bonds to an amount not exceeding \$400,000,000, of denominations of \$50, or some multiple of that sum, which shall bear interest at the rate of 3½ per cent per annum, payable semi-annually, redeemable at the pleasure of the United States after five years, and payable twenty years from the date of issue; and also Treasury notes to an amount not exceeding \$300,000,000, in denominations of \$10 or some multiple of that sum not exceeding \$1,000, either registered or coupon, bearing interest at a rate not exceeding 3½ per cent per annum, payable semi-annually, redeemable at the pleasure of the United States after one year, and payable in ten years from the date of issue; and no Treasury note of a less denomination than \$100 shall be registered.

"This report, taken in conjunction with the facts heretofore stated, seems most extraordinary. The four hundred millions of bonds are to bear 3½ per cent interest, although confronted by the fact, supported by every-day transactions, that said bonds could and would be negotiated on much better terms. It is not often the holder of a note thinks better of it than the maker, and this has become so universal in practice a reversal of the principle was never deemed possible. It seems, however, that axioms in financial practice, even universal principles which a credulous people believed admitted of no change whatever, may be switched off out of the way at the will and pleasure of a congressional committee. Outside of those immediately and directly interested in speculation in bonds—and the number of these is small when compared with the host of actual investors—there can not be found any considerable number of financiers who believe a 3 per cent forty-year bond can not be negotiated at par.

"These bond speculators, with untiring and unflagging zeal, aided by a subsidized press, seek to influence Congress by appeals to the fears of its members that an unsuccessful attempt to negotiate a 3 per cent bond would wound our credit and practically defeat resumption. How, they do not tell us. Pending action by Congress upon this bill, these same speculators have even attempted to depress the market by a free sale of 4 per cent bonds as information which would naturally influence Congress in favor of a higher and against a lower rate of interest; but, as the bonds have advanced 2 or 3 per cent, even under these assaults, it furnishes additional proof that to adopt the recommendation of the committee and issue a bond bearing 3½ per cent interest would be a national folly.

"The committee further recommend an issue of three hundred millions of Treasury notes, bearing interest at a rate not to exceed 3½ per cent per annum, redeemable at the option of the Government after one year, and payable in ten years from the date of issue.

"It will be remembered the bonds are to bear interest at the rate of 3½ per cent per annum, arbitrarily fixed. Said bonds have twenty years to run, with the reserved option to pay them after five years, while the rate of interest borne by the Treasury note shall not exceed 3½ per cent, implying that it might be possible to negotiate the notes at a lower rate of interest, notwithstanding the Treasury notes have only ten years to run, with the option to pay them after one year.

"Here, again, the committee set at defiance all laws which have ever governed commerce in finance, by assuming that a short bond, yielding to the purchaser at the discretion of the Secretary of the Treasury at or under the rate of 3½ per cent per annum, could be negotiated at par, while the long-term, and therefore better, bond, bearing a fixed rate of 3½ per

cent per annum, and no less, would not command more than the par value."

Mr. Bayard: "Would it interfere with the Senator if I should make an inquiry?"

Mr. McPherson: "Not at all."

Mr. Bayard: "Would the Senator desire to be understood as saying that it is not the fact in financial arrangements that a bond payable punctually and promptly at a short date, desirable for a certain class of pecuniary arrangements, can be negotiated at a lower rate of interest than a bond more prolonged as to its term of operation, and that, *per contra*, the bond having the longest term to run, and the more permanent for reasons connected with its own nature, is also negotiable at the lowest rate of interest, so that you have in this an illustration of extremes meeting? The short bond, upon the payment of which punctually absolute reliance can be placed, has its uses for certain classes of loans and occupations of capital which do not attach to a bond having a longer time to run; and a bond having the longest time to run, offering a permanent investment, has uses which enable it to be negotiated at a low rate of interest which is not known to a shorter date bond. Have I made myself clear?"

Mr. McPherson: "Certainly; I understand the Senator."

Mr. Bayard: "It is a fact perfectly well ascertained and understood in the practical dealings of men accustomed to large financial operations, that you exchange in one case the desirability of a short loan with absolute and punctual repayment for the permanence of investment with a long loan, absolutely secure, but only ultimately secure."

Mr. McPherson: "The absurdity of the proposition upon its face is so apparent that I am really surprised that the Senator confesses he has been deceived by it. I will admit the fact that a bond bearing any rate per cent, even if it be 1 per cent, can be used by speculators in Wall Street profitably, who carry over vast sums of money from one day to the other, and any percentage that it bears is an advantage to them; but the market for bonds the world over gives the preference to a long-time bond bearing a fixed rate of interest. If the honorable Senator will place the four hundred million issue of bonds that he proposes shall bear $3\frac{1}{2}$ per cent interest in Wall Street, where many of them will go, perhaps all of them, and in connection therewith the \$300,000,000 of Treasury notes, with the option of the Secretary of the Treasury at any rate under $3\frac{1}{2}$ per cent that he can negotiate them at, I wish to know which of the securities will be sought first? What difference will it make to a financier or capitalist whether it is a bond having twenty years to run, or a bond having ten years to run? He pledges the Government security for a loan, a call loan if you please, and the quality or value of the thing pledged determines the sum the borrower will receive."

Mr. Bayard: "If my friend will permit me, I will say to him it depends altogether upon the need and uses for which the money is designed. If a man awaiting some grand speculation or enterprise for which he has accumulated, for instance, half a million dollars, wants that money to be repaid to him at the end of a year, but to keep it useful during that year, and if he can buy the short bond which is bound to be paid at the end of that time, for a low market price, certainly it is an inducement to him to affix certainty to his operation and to borrow the money for just the time he wants it; whereas, on the other hand, if there be some one seeking a permanent investment for the execution of a long-continued trust, he will seek that bond which is not to be disturbed by repayment and reinvestment when he does not want it. Therefore, the whole question is answered. It depends upon the objects that the investor has in view. For one purpose a short bond is more valuable to him; for another class a long bond is more valuable; and in the mean time the fluctuation that may exist upon the long bond would be hurtful to the man who wants to use his money but for a year or two years, and the certainty of repayment of value at a fixed rate of interest to the man who needs the short loan is secured to him better by the low class of bonds. Therefore the whole thing speaks for itself."

Mr. McPherson: "A long bond, according to the admission of the Senator, will serve both purposes."

Mr. Bayard: "No, because it is subject to fluctuation."

Mr. McPherson: "Why can it not subserve both purposes? Suppose the honorable Senator to-day wishes to borrow a million dollars upon a million dollars' worth of 4 per cent bonds. He does not go to the Government to make that loan. He goes into the financial centers of the country; he goes to London, he goes to Wall Street. Those bonds have a fixed market value for that day's transaction. He borrows the money from the capitalist; he does not borrow it from the Government."

Mr. Bayard: "The Senator is in error—"

Mr. McPherson: "Therefore the 4 per cent or the $3\frac{1}{2}$ per cent bonds have a value upon which to loan or to borrow money, just the same as the 3 per cent or the $3\frac{1}{2}$ per cent Treasury note, and at the same time they serve the additional purpose of affording an investment for those who desire a permanent investment."

"The bonds of the Government are in active demand as investment by those who do not wish to participate in the hazards of business or speculation, but, without labor or risk, give sure return with absolute security."

"No other security can be compared to these bonds. Behind them, and pledged to their redemption, stand the whole wealth of the nation. Taxation can not reach them, and, if a registered bond, even the thief may be disappointed. They are in demand in all the money

centers at home and abroad—are wanted by everybody who prefers a perfectly safe to a speculative investment. Unless war shall demand the creation of a new public debt, these bonds will probably be the last the Government will ever issue, and as the demand will increase everywhere in proportion to the increase of wealth and population, in like proportion will their market value appreciate. The interest we promise and pay is the tax-payers' wages, and why throw away one half per cent per annum of their hard-earned money?

"For Congress now to say, with the light we have, that the discretion between a $3\frac{1}{2}$ per cent Treasury note and one bearing a less rate of interest should be lodged with the Secretary of the Treasury is equivalent to discrediting our own obligation, and virtually foreordains and establishes the rate at $3\frac{1}{2}$ per cent.

"Why, then, permit our bonds to be hawked about the streets subject to the whim or caprice of a Treasury Secretary or of the expectant purchasers, none of whom will invest in a 3 per cent bond while Congress proclaims its absurdity by fixing a higher rate?

"In my opinion, it is the duty of Congress to fund the debt at the lowest possible rate of interest; to extend the time for the maturity of the bonds to forty years, so that posterity may bear a share, although a small share, of the burdens created by the exigencies of the war. The present generation has contributed in the tremendous sacrifice of life it involved its full share of the cost. It has suffered in the waste and destruction always attendant upon civil war to an extent never before known in the history of any people. During the five years, commencing with 1873 and ending with 1878, the suffering by paralysis in business industry from causes contingent upon the war have had no parallel in the annals of the world. A somewhat disordered financial system, together with outer causes apparently uncontrollable, forced into bankruptcy tens of thousands of our citizens engaged in legitimate and honorable pursuits, closed the doors of our workshops and factories, and compelled the honest and willing laborer to become a tramp and seek bread from door to door. Notwithstanding all this, we have paid off more than one half our war debt. A grateful people, speaking through their representatives in Congress, have imposed upon the present generation a pension list which in the aggregate is frightful, and the burdens of which can not be shared by posterity, because the pensioner will not be alive to receive it.

"The war for the Union was fought for the benefit of all future generations, and it would be only equitable for posterity to share the expense.

"The money to pay this debt must be drawn from the people by taxation, and we are annually making drafts upon the people far in excess of the actual needs of the Government. This surplus war taxation is taken from the re-

productive industries, from the wages or working fund of the country, and every dollar thus taken above the wants of the Government economically and honestly administered, is a dollar too much.

"Let it not be forgotten that there are other taxes bearing heavily upon the shoulders of the people. Faults in legislation and administration by States and municipalities have been followed by a train of evils which will require a degree of prosperity unparalleled in the past to enable the people to reform and repair. Unless this be done, and speedily, bankruptcy and repudiation will be the final result. This is especially true of some of the States of the South, whose credit is pledged for tens of millions of dollars, the proceeds of which have never found their way into their treasury vaults or been applied in such way as to add much to the general wealth and prosperity. Is it just, is it wise, under circumstances such as these, and at a time when industry at the South can not pay its local taxes, to impose upon the people these unnecessary burdens?

"Our municipal debt is scarcely less than the national debt, and having been contracted to a large extent since the war, of necessity bears a heavy burden of interest, and, unlike the national Government, but few cities have the financial credit to refund their debts at a lower rate. The aggregate sum drawn from the people on account of interest on State and municipal debts is a heavy burden upon them.

"There is not a State in the Union in which the legal rate of interest is less than 6 per cent, and in many of the States where money is most needed to aid development 10 per cent is maintained as the ruling rate. The agriculturist, manufacturer, and miner are never able to borrow, even when money is abundant, at less than the legal rate; and when capital is sadly needed at the West and South to move the wheels of industry, it is proposed to take annually from fifty to one hundred millions of the working capital of the country, costing for its use at least 10 per cent per annum, to pay a debt which can be extended indefinitely by the Government at 3 per cent. This may pass for statesmanship, but it can scarcely be called business wisdom. The citizen, as a member of the national community, after all his sacrifices in support of the national credit, must pay his own debt bearing 3 per cent interest by a mortgage loan upon his property or business bearing 10 per cent. It is only necessary to state the proposition to demonstrate its injustice and absurdity.

"Rapid payment of the public debt, when the Government can borrow at the minimum rate while the citizen is required to pay the maximum rate, is an evil and a loss to the citizen, whom the Government is bound by every consideration consistent with financial safety to encourage and protect.

"True financial wisdom requires the refunding of the national debt in very long bonds at

a very low rate of interest. Relieve our oppressed citizens from the heavy burden of war taxes in time of peace, and leave the working capital to fructify in the industries of the people. To this end I favor a 10-40 bond bearing interest at the rate of 3 per cent per annum."

Mr. Williams, of Kentucky: "Mr. President, if we are to fund this debt at all, I am in favor of funding it at the lowest possible rate and at the shortest possible time. If I had my way, I would do exactly for the nation what I would do for myself. I would give my note payable on or before a given day, and before that day arrived pay as much of it as I possibly could. That relates to the time. As to the rate of interest, I am perfectly satisfied that the whole of this debt can be easily floated and kept up at 3 per cent if we were to reverse the option to pay at twelve months from date. The national banks could absorb the whole of this entire amount; and if you were to put it at 2 per cent, or 1 per cent instead of $3\frac{1}{2}$ per cent, they would take the whole of it.

"Now give them $3\frac{1}{2}$ per cent, and what does it amount to? It gives to the banks 30 per cent on their capital invested. There is no analogy between the consols of Great Britain and the bonds of the United States. Those consols are taxed to support the Government; the bonds of the United States are not taxed, neither the bonds themselves nor the interest, nor the income accruing from them. Then in this country these bonds are the basis of the circulating medium. A banker takes \$100,000 of bonds to the Treasury when he wants to extend the capital of his bank, and they give him \$90,000 of circulating money just as good as he paid for the bonds themselves. He then is out but \$10,000, and at 3 per cent it brings him 30 per cent per annum. Does any man doubt that the banks will take all these bonds? They need them all; they must take them all. They must take them at 1 per cent as well as at $3\frac{1}{2}$. Why should you pay $3\frac{1}{2}$ per cent? It is a bonus to the banks; it is a bounty to the capital of the country. Gentlemen may talk about subsidies and bounties, but here is a subsidy or a bounty that we are proposing to the moneyed interests of the country. Why, sir, there is in the city of New York alone capital enough to absorb this \$650,000,000. There is a demand around the bourse in New York for cash every day absolutely sufficient to absorb the whole of this \$650,000,000 if the banks do not take a dollar of it. Does any man doubt that? Why, look at the clearances every week in New York at the clearing-houses; in a single week they amount to more than the whole of the bonds that we propose to put on the market. Can they have any better security for the short loans that they need for their speculations, for use at the exchanges, for the purchase and sale of stocks, than these bonds? And can you doubt that they will be readily taken in a week? My word for it, they will all be taken in a single week. There will not be

a bond on the market one week after we pass the law and arrangements are made to issue them.

"I am opposed to the whole scheme of extending this debt of the country. I think what is good policy for the father of a family is good policy for the nation. If I believed I was about to die, the first thing I would do would be to leave my estate so that my children could get it; I would want to leave it clear to my children, without a debt upon it, without a mortgage upon it; and as a Senator of the United States legislating for my posterity and your posterity and future generations, I would be glad to do as much of the work as possible to pay off the whole of the debt while I live, and I hope to see it paid, and I believe I shall see it paid before I die. We shall have a surplus in the Treasury of more than \$110,000,000 next year; we shall have more than that the year after, and in ten years from to-day, if the same economical policy is pursued that is now being pursued, we shall have a surplus revenue to apply upon the debt of more than \$200,000,000 a year.

"Therefore, sir, I am opposed to this amendment adding one half per cent to the rate of interest fixed in the House bill. Suppose we do not negotiate this bond, what harm will be done? Suppose the banks refuse—but they will not refuse—we can just issue Treasury notes and pay off the whole and take their circulation, cancel their bonds, and save the country \$400,000,000. That is what we can do. Give to these bonds and give to these Treasury certificates that you issue the power of paying duties at the custom-house, and they will be at par with gold to-morrow. Your greenbacks would have been at par years ago if you had made them receivable at the custom-house for public dues. Who doubts that? What Senator on this floor doubts that?

"I did not rise to make a speech, but just to enter my solemn protest against the impending amendment. I will vote against this increase of the interest. I will vote for the bill as it came from the House. I may have something to say upon another amendment as to the fifth section, but I care not to say more on this now. I am for the shortest time and the lowest possible rate of interest suggested, because I am perfectly satisfied, not only from my own opinion and judgment, but from that of the ablest bankers in the United States, that these bonds will be greatly sought after and caught up in less than a fortnight after we shall have passed this bill."

Mr. Voorhees, of Indiana: "Mr. President, it was not my purpose until a few hours ago to take part in this debate. It has been, and still is, my intention to assist in making as good a funding bill as possible, with as much benefit and as little evil to the people in it as can be procured in such a measure. Whether I shall finally vote for it or not will depend upon its condition when a vote is reached upon its pas-

sage, after all amendments have been considered. A low rate of interest on bonds of brief duration, with no discrimination in favor of national banks, will, in my judgment, make the best funding law attainable.

"The amendment offered by the Senator from Texas [Mr. Cooke], together with some things which have fallen from other Senators, have induced me to change my purpose of remaining silent. The amendment of the Senator from Texas relates to a subject of great importance to the American people. Its object, if I understand it correctly, is to protect the greenback currency now in circulation from possible destruction under the operations of the pending bill. With that object, it is perhaps needless for me to say, I deeply and earnestly sympathize, and I embrace the opportunity presented by that wholesome amendment to express my views of its propriety and necessity.

"Sir, it is now something more than a year since a needless, uncalled-for, and alarming financial agitation sprang up, instigated by associated bankers and capitalists, in favor of the wholesale destruction of the entire legal-tender note or greenback currency of this country. The systematic efforts made in the same interest to force a resumption of specie payments on a gold basis alone are fresh in the minds of all. By the act of 1873 silver was destroyed as money, and by the act of 1875 provision was made for the retirement and destruction of legal-tender notes until they were contracted within the reach of a gold basis for the purposes of redemption. This policy was the most baneful and truly infernal one ever inflicted upon the people of this country. The memory of it starts afresh the curses of its victims. It destroyed all values both of property and labor. It bankrupted millions of honest people, deprived laboring men and women of a chance to earn bread, drove thousands and tens of thousands to vice and crime, filled the prisons with despairing inmates, and stained the earth with the blood of suicide and murder. This is the true record of the years between 1873 and 1878. The patience of the people at last gave way. They turned upon this accursed policy of destroying money, the measure of all values, and broke it down. The year 1878 is one long to be remembered by the laboring people of this country. In that year they gained the only victories they have had on the financial question since the Republican party came into power, nearly twenty years ago. On the 28th day of February, 1878, the Congress of the United States, by an overwhelming vote over the veto of the President, restored the old American silver dollar to coinage and circulation.

"The struggle here was protracted and determined. The advocates of the gold basis, the monometallists, the adherents of silver demonetization, filled the country with predictions of the evils which would flow from its restora-

tion. No act of Congress, however, has ever given greater satisfaction to the masses, irrespective of party, their only regret being that it did not go far enough; that it did not place the coinage of silver on the same free and unlimited basis with gold. In my judgment, this defect of the law will be cured at no distant day. But the work of financial reform in 1878 did not stop with the restoration of silver money. By the act of May 31, 1878, the further destruction and contraction of greenbacks was prohibited. They were recognized by this legislation as a permanent part of our currency. They were no longer left to the caprice or interested motives of their enemies. The business world took notice of this fact, and their credit rose at once. Under the apprehension of being compelled to do so by law, the Secretary of the Treasury agreed to receive them in payment of customs duties on imports, and they immediately took their place in the money markets at par with gold. On this fact is based the claim that specie payments have been resumed. I am glad to know that the Senator from Delaware [Mr. Bayard] looks upon this claim of specie resumption as I do, for it is a pleasure to concur with him whenever I can. In the opening sentences of his speech of January 27, 1880, he says there is no actual resumption of specie payments at this time, and, after describing the present law on that subject, he declares that 'to resume by such a delusive process is as idle as to bail water with a sieve.'

"It would be difficult, indeed, to describe more forcibly a foolish effort to do an impossible thing. That Senator, I am sure, will therefore agree with me that the revival of business throughout the country is not in any respect due to the so-called resumption of specie payments, when in point of fact such a resumption has not taken place at all. In my judgment the legislation of 1878, legalizing silver money and protecting the greenback currency from further destruction and consequent contraction, did more than all other causes combined to restore confidence in business circles and to bring about whatever degree of prosperity we have since enjoyed. We have had bountiful harvests, it is true, but without financial stability, and without confidence in the quality and amount of money regulated by law, no favorable change would have occurred. The President of the United States, however, at the opening of Congress in December, 1879, and again at the opening of the present session, asked us to undo all we have done on this great subject. In his annual message of December last he strongly urges Congress to authorize the Secretary of the Treasury to suspend the coinage of the silver dollar of 412½ grains; and then with daring hardihood he recommends the retirement from circulation of the entire volume of legal-tender notes, commonly called greenbacks.

"Sir, this is a tremendous issue. It is the boldest attempt at outrage on the people, as it seems to me, in the whole range of our financial history. It is not equaled even by the act of March, 1869; for while that act plunders the tax-payers of hundreds of millions they never agreed to pay, yet its grasp at power was not so great as we are now confronted with. This demand upon us to destroy at one fell blow nearly three hundred and fifty millions of the debt-paying money now in use comes as that of the President, but it is not merely his. It is the demand of more than two thousand national banks organized as the National Bank Association, that Congress shall abandon to them the absolute control of every feature of our financial system. The President in his message simply speaks for them when he attempts to excite distrust against United States notes made by law a legal tender. It is evident they think no money should reach the people except through their own agency. If the greenback currency was swept from existence the banks would have the financial field to themselves, and their currency, with its profits to them and its expense to the people, would soon fill the place of that which had disappeared. This is the vast stake for which the money power now plays. It involves not only millions, but power. It involves the abdication by Congress of all its powers over the currency and the surrender of the whole subject to a moneyed autocracy before which every interest and every department of this Government will be powerless.

"Such corporation wealth and far-reaching financial dominion as that to which the National Banking Association now aspires have hardly a parallel in the history of the world. Is it not time to look to the terms and the principles of the Constitution? In whose hands does that instrument place the power to create a circulating medium for the use of the people? We constantly hear about the duty of driving the financial question out of Congress. To read from day to day the organs of the banks, it would appear to be a usurpation on the part of Congress to consider the question at all. From them it would appear that the Federal Government was entirely incompetent to endow its paper currency with debt-paying functions. Such, too, I understand to be the position of the able chairman of the Finance Committee of this body.

"Let us examine briefly and see whether the founders of this Government did in fact fetter its hands and cripple its powers to the extent claimed. In all governments among men sovereign power is lodged somewhere. There is always a place beyond which you can go no farther. In the words of William Pitt, in the House of Commons, in 1799: "In every government there must reside somewhere a supreme, absolute, and unlimited authority." Sovereignty is rightfully claimed on some subjects by the States of this Union, and with equal

justice by the Federal Government on other subjects. Each has a limited sphere of sovereignty beyond which it can not go. Each has prescribed bounds, and there must stop. But with the people, back of all Federal and State governments, is lodged the supreme, absolute, and unlimited authority from which emanate all constitutions, laws, and policies. They can bind and they can loosen. They made the government of the States, and they made the Federal Government. Chief-Justice Marshall, the master mind of American jurisprudence, in deciding the case of *McCulloch vs. The State of Maryland*, says:

"The Government of the Union, then (whatever may be the influence of this fact on the case), is emphatically and truly a Government of the people. In form and in substance it emanates from them. Its powers are granted by them, and are to be exercised directly on them and for their benefit.

"The great purposes for which the people created the Government of the Union are also specifically declared. In the decision just cited, Chief-Justice Marshall again says:

"The Government proceeds directly from the people, is ordained and established in the name of the people, and is declared to be ordained in order to form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity.

"With these purposes in view—purposes as beneficent, as vast, far-reaching, and glorious, as ever sustained the hopes of the human race—did the framers of that sacred instrument, the Constitution, make a close and narrow limitation of the means by which to carry them out? We have heard much, throughout all our history, of strict constructionists of the Constitution. I hope and believe that I belong to that party. I am in favor, however, of strictly construing the Constitution for the accomplishment of the great and declared ends of Government, rather than for their defeat. I believe the power to carry out and establish these ends is vested by the Constitution in the Government of the United States. By the last clause of section 8 of the first article of the Constitution it is declared that Congress shall have power—

"To make all laws which shall be necessary and proper for carrying into execution the foregoing powers, and all other powers vested by this Constitution in the Government of the United States, or in any department or officer thereof.

"That is a broad and sweeping provision, and it has been held to bestow a wide discretion upon Congress in the selection of the necessary and proper means with which to execute the powers of the Government and to fulfill the purposes of its creation. The decision of the present Supreme Court of the United States, in 12 Wallace, holding the laws creating legal-tender notes to be constitutional on the ground that such a currency was necessary for the preservation of the Government, has been harshly criticised. The Senator from

Delaware, in his speech of more than a year ago, saw proper to say:

"Nor do I care now to recite the sad history of the overthrow of one of the most deliberate decisions ever reached by the Supreme Court, accomplished so speedily by the active interference and power of President Grant and Mr. Hoar, his Attorney-General, by the change not in the opinion but in the *personnel* of the tribunal, and an increase in its numbers. . . . On May 1, 1871, this decision was overruled by the reconstructed court by a vote of 5 to 4, and their judgment is to be found in the twelfth volume of Wallace's Reports.

"Sir, the Senator might have spared the Supreme Court his grave censure. Every principle of law as to the power of Congress found in 12 Wallace, upholding the constitutionality of the legal-tender acts of 1862 and 1863, is to be found in 4 Wheaton, in the case of *McCulloch vs. The State of Maryland*, enunciated by Chief-Justice Marshall in 1819, now more than sixty years ago.

"All there is of the question of power is stated on page 421 of 4 Wheaton:

"We admit—

"Says Chief-Justice Marshall—

"as all must admit, that the powers of the Government are limited, and that its limits are not to be transcended. But we think the sound construction of the Constitution must allow to the national Legislature that discretion, with respect to the means by which the powers it confers are to be carried into execution, which will enable that body to perform the high duties assigned to it in the manner most beneficial to the people. Let the end be legitimate, let it be within the scope of the Constitution, and all means which are appropriate, which are plainly adapted to that end, which are not prohibited, but consist with the letter and spirit of the Constitution, are constitutional.

"Under the doctrine here laid down, the issue of legal-tender notes in 1862 and 1863 was left by the Constitution to the discretion of Congress, to be decided by that body in view of all the facts then before it. This ruling indeed makes the power of Congress depend on a question of fact.

"The Government in 1862 and 1863 was striving to maintain its own existence. Was that end legitimate and within the scope of the Constitution? It had to support great armies in the field and equip fleets on the ocean to insure self-preservation. Was the legal-tender note currency an appropriate means of assistance for that purpose? Was it adapted to the service it was expected to perform? Was it a necessary and proper means to a legitimate end? If so, it was a constitutional currency unless prohibited by the letter or the spirit of the Constitution. It is not pretended that such a prohibition exists in terms. Is it prohibited by the spirit of the Constitution, or by any implication arising out of any of its provisions? We are all familiar with the argument on this point. Because the Constitution gives to Congress the power 'to coin money and regulate the value thereof and of foreign coins' it is insisted that the power to make money out of anything that can not be actu-

ally coined is excluded. But those who take this position, and urge a technical construction, can not themselves adhere to the term 'coin' without giving it an explanation which does not appear in the Constitution. The Constitution does not speak of the coinage of gold or silver. All kinds of metals may be coined. Iron, zinc, lead, and all other metallic substances might be used to comply with the mere verbal phrase of the Constitution. Nor does the Constitution expressly authorize Congress to declare any kind of money, even gold and silver, a legal tender. These facts show that in order to restrict the term 'coin' to the precious metals, instead of allowing it to apply to all metals, and in order to give Congress the power to declare them a legal tender, we have to go outside of the express words of the Constitution to obtain its meaning.

"Nobody questions that so far as the coinage of metal money is concerned no other substances except gold and silver can be coined, and yet the Constitution does not say so. Nobody questions that Congress can make gold and silver a legal tender, and yet the Constitution is silent on that point. If, therefore, so much of the power of Congress over the question of money, on points where there has never been any dispute, is derived from inferences arising out of the Constitution, rather than from expressions to be found in it, might we not with safety apply the same rule to the matter that is in controversy? I do not believe that the power of Congress is exhausted by the mere coinage of metallic money. Let it be understood that all money is created by law, and that all power to declare what shall be money is vested in Congress. The Supreme Court of the United States says:

"If the power to declare what is money is not in Congress, it is annihilated.

"It is expressly taken away from the States. Section 10 of the first article of the Constitution provides that—

"No State shall enter into any treaty, alliance, or confederation; grant letters of marque and reprisal; coin money; emit bills of credit; make anything but gold and silver coin a tender in payment of debts; pass any bill of attainder, *ex post facto* law, or law impairing the obligation of contracts, or grant any title of nobility.

"This is a sweeping prohibition of the exercise of power by the States. It is a total negative, and, taken in connection with the affirmative grant of power on this subject, it demonstrates the original purpose to confer upon Congress a full and complete power over the currency of the people. There is one feature in this prohibitory clause of the Constitution more suggestive than any other. The power to make anything but gold and silver a legal tender in payment of debts is expressly denied to the States, but not to Congress. The subject was before the minds of the framers of the Constitution; they considered it; and the fact that they denied to the States, in express

words, the power to make paper money a legal tender, and were totally silent as to the power of Congress on that subject, is a strong implication in favor of that power in Congress. This implication is greatly strengthened, too, when we reflect that the power of Congress to make gold and silver a legal tender in payment of debts is also an implied power, and not an express grant. If it was the intention of the framers of the Constitution that Congress should not have the power to make anything but the precious metals a legal tender, how easily, how certainly, how inevitably would they have inserted such a provision when they were treating of that very question! Would they have used express language in order to deprive the States of this power, while Congress, to whom every vestige of power over money was transferred, was left untrammelled, unless it was their design to permit Congress a discretion on the subject? If it is said that this is a Government of delegated powers, and that while the power to make anything but gold and silver a legal tender was prohibited to the States, yet it was not delegated to the United States, the answer is, that neither was the power to make gold and silver a legal tender expressly delegated to the United States. So that if by reason of its full general control of the question of money Congress derives a power, unexpressed in the Constitution, to declare what shall be a legal tender in the payment of debts, what is there to confine it merely to the precious metals? On this point the reasoning of the Supreme Court, to my mind, is just and unanswerable. It is found on page 546 of 12 Wallace, and is as follows:

"Why, then, it may be asked, if the design was to prohibit to the new Government, as well as to the States, that general power over the currency which the States had when the Constitution was framed, was such denial not expressly extended to the new Government as it was to the States? In view of this it might be argued with much force that when it is considered in what brief and comprehensive terms the Constitution speaks, how sensible its framers must have been that emergencies might arise when the precious metals (then more scarce than now) might prove inadequate to the necessities of the Government, and the demands of the people; when it is remembered that paper money was almost exclusively in use in the States as the medium of exchange, and when the great evil sought to be remedied was the want of uniformity in the current value of money, it might be argued, we say, that the gift of power to coin money and regulate the value thereof was understood as conveying general power over the currency, the power which had belonged to the States and which they surrendered. Such a construction, it might be said, would be in close analogy to the mode of construing other substantive powers granted to Congress. They have never been construed literally, and the Government could not exist if they were. Thus the power to carry on war is conferred by the power to declare war. The whole system of the transportation of the mails is built upon the power to establish post-offices and post-roads. The power to regulate commerce has also been extended far beyond the letter of the grant. Even the advocates of a strict literary construction of the phrase 'to coin money and regulate the value thereof,' while insisting that it

defines the material to be coined as metal, are compelled to concede to Congress large discretion in all other particulars. The Constitution does not ordain what metals may be coined, or prescribe that the legal value of the metals when coined shall correspond at all with their intrinsic value in the market, nor does it even affirm that Congress may declare anything to be a legal tender for the payment of debts. Confessedly the power to regulate the value of money coined, and of foreign coins, is not exhausted by the first regulation. More than once in our history has the regulation been changed without any denial of the power of Congress to change it, and it seems to have been left to Congress to determine alike what metal shall be coined, its purity, and how far its statutory value as money shall correspond from time to time with the market value of the same metal as bullion. How, then, can the grant of a power to coin money and regulate its value, made in terms so liberal and unrestrained, coupled also with a denial to the States of all power over the currency, be regarded as implied prohibition to Congress against declaring Treasury notes a legal tender, if such declaration is appropriate and adapted to carrying into execution the admitted powers of the Government?

"But it has been strenuously insisted on this floor that the obligation of contracts was impaired by the passage of the legal tender acts, as they are known, of 1862 and 1863. Even if this position could be sustained, it is not clear that it would render them unconstitutional. The States are prohibited from making any 'law impairing the obligation of contracts.' Is that true, however, as to Congress? We do not find it so in the language of the Constitution; neither do we find it in the practices of the Government. What is a general bankrupt law except a provision by which contracts may not only be impaired but abrogated, totally destroyed? A bankrupt law applies to all contracts, past and future, and provides legal methods for their entire obliteration. It may be said that the power is expressly granted in the fourth clause of section 8, Article I of the Constitution to enact a general bankrupt law. That is true; but if Congress is prohibited from impairing, under any circumstances, the validity of contracts, how can two such antagonistic principles stand together in the same instrument? Congress can declare war, before whose blasts contracts are withered and blown away. Congress can pass non-intercourse acts, and enforce embargoes by which contracts may be hindered, impaired, and annulled. But I am very far from admitting that the legal-tender acts do impair the obligation of contracts, whatever the power of Congress may be on that subject. The argument on this point, however, can of course apply only to contracts made prior to February, 1862. All contracts made since the passage of the first legal-tender act have been made with reference to the existence of the legal-tender note currency.

"The complaint in regard to contracts prior to February, 1862, is that a man who owed a debt at that time might afterward pay it in legal-tender notes, or greenbacks, as they are popularly styled, and that his creditor had to take them. Was this an impairment of an or-

inary contract to pay money, in which there was no mention of any special kind of money, and in the discharge of which both parties simply contemplated the use of the lawful money of the country? I say it was not. Numerous decisions of the Supreme Court of our own country, and of the highest courts of all other civilized countries, might be cited to show that 'the obligation of a contract to pay money is to pay that which the law shall recognize as money when the payment is to be made.' Every contract is made subject to the power of the Government to enact new laws and to repeal old ones. All human conduct is governed by the same rule. We all take the risk of not only what the law now is, but of what it hereafter may be. This is a risk which every citizen shares at every step and on every conceivable subject. The legal-tender acts are not the only financial hazards the American people have encountered in the way of a change of laws. The acts of Congress regulating the coinage of gold and silver have been repeatedly altered and amended. The number of grains of gold in the gold eagle was reduced 6 per cent in 1834, without changing its legal-tender value. The same thing has been done more than once with silver coin, and it has never been contended that such legislation impaired the obligation of contracts. The position assumed by the Supreme Court on this point is the only one which can be upheld. It is stated on page 548 of 19 Wallace, as follows:

"It is true that under the acts a debtor, who became such before they were passed, may discharge his debt with the notes authorized by them, and the creditor is compelled to receive such notes in discharge of his claim. But whether the obligation of the contract is thereby weakened can be determined only after considering what was the contract obligation. It was not a duty to pay gold, or silver, or the kind of money recognized by law at the time when the contract was made, nor was it a duty to pay money of equal intrinsic value in the market. (We speak now of contracts to pay money generally, not contracts to pay some specifically-defined species of money.) The expectation of the creditor and the anticipation of the debtor may have been that the contract would be discharged by the payment of coined metals, but neither the expectation of one party to the contract respecting its fruits, nor the anticipation of the other, constitutes its obligation. There is a well-recognized distinction between the expectation of the parties to a contract and the duty imposed by it. (*Speden vs. Austin*, 5 Adolphus and Ellis, N. S., 671; *Dunn vs. Sayles*, *Ibid.*, 685; *Coffin vs. Landis*, 10 Wright, 426.) Were it not so, the expectation of results would be always equivalent to a binding engagement that they should follow. But the obligation of a contract to pay money is to pay that which the law shall recognize as money when the payment is to be made. If there is anything settled by decision it is this, and we do not understand it to be controverted. (*Davies*, 28; *Barrington vs. Potter*, Dyer 81, b. fol. 67; *Faw vs. Marsteller*, 2 Cranch, 29.) No one ever doubted that a debt of \$1,000 contracted before 1834 could be paid by one hundred eagles coined after that year, though they contained no more gold than ninety-four eagles such as were coined when the contract was made; and this, not because of the intrinsic value of the coin, but because of its legal value. The eagles coined after 1834 were not money until they were authorized by law; and had they been coined before without a law fixing

their legal value, they could no more have paid a debt than uncoined bullion, or cotton, or wheat. Every contract for the payment of money simply is necessarily subject to the constitutional power of the Government over the currency, whatever that power may be, and the obligation of the parties is therefore assumed with reference to that power.

"In the discussion of this great question, however, we have always heard much stress laid on what have been termed the 'war powers' of the Constitution. There are those who, while admitting that Congress has the power to make legal-tender notes, still insist that such power only exists during war. They hold that a state of war gives rise to a power in the Constitution, and confers it upon Congress, over the currency of the country, which has no existence in time of peace. It is certainly true that great war powers belong to this Government. But is the power on the part of Congress to create a legal-tender note circulation for the people one of them? That is the plain question. The powers of Congress on the subject of war are specifically named in the Constitution. It may be profitable to read them.

"To declare war, grant letters of marque and reprisal, and make rules concerning captures on land and water;

"To raise and support armies, but no appropriation of money to that use shall be for a longer term than two years;

"To provide and maintain a navy;

"To make rules for the Government and regulation of the land and naval forces;

"To provide for calling forth the militia to execute the laws of the Union, suppress insurrection, and repel invasions;

"To provide for organizing, arming, and disciplining the militia, and for governing such part of them as may be employed in the service of the United States, reserving to the States, respectively, the appointment of the officers, and the authority of training the militia according to the discipline prescribed by Congress.

"Sir, if the power of Congress, or any part of it, over the currency is derived from the grants of the Constitution in relation to war, it must be found somewhere in the clauses which I have just read. They contain all the power which has been given to Congress on the subject of war. Those who contend that the legal-tender notes are constitutional in war, but not in peace, claim that their argument is sustained by the two clauses just quoted:

"To raise and support armies, but no appropriation of money to that use shall be for a longer term than two years;

"To provide and maintain a navy.

"They contend that the power to raise and support armies and to provide and maintain a navy implies the power to resort to an issue of legal-tender notes if necessary. It is clear to my mind that in these clauses the framers of the Constitution were providing a power in Congress for the appropriation of money for the support of our military and naval forces rather than for a power to create money to be appropriated. The same sentence which provides for raising and supporting armies treats

of appropriations of money for that purpose, and limits the time for which they may be made. The thought connected with that clause of the Constitution at the time it was written, so far as money was concerned, evidently dwelt on the power to appropriate money from the Treasury, and not upon the power of Congress to declare what should be the money of the country. The truth is that the power of Congress over the currency is far broader than all the war powers of the Constitution combined. War is not the chief pursuit of this Government, nor of any other, except a government of savages. War is not the only condition in which the American people may need financial relief. Peace may have its financial emergencies as well as war. Peace, the friend of industry, the promoter of trade, the builder of cities, the patron saint of commerce; peace, the best gift of God to nations and to men; why should it have less power in the Constitution with which to execute the purposes of the Government than war? Why should the long reign of peace be less able to preserve the Government and to promote the general welfare than the brief periods of strife and bloodshed?

"Sir, Chief-Justice Marshall did not speak of a time of war or a time of peace, but for all times and for all conditions of public affairs, when he said that—

"The sound construction of the Constitution must allow to the national Legislature that discretion, with respect to the means by which the powers it confers are to be carried into execution, which will enable that body to perform the high duties assigned to it in the manner most beneficial to the people.

"This principle here laid down by the mighty mind of Marshall recognizes in Congress, in the immediate representatives of the people, the power, without respect to a condition of peace or war, to adopt such measures as in their judgment are best calculated to promote the general welfare, provided simply that the measures adopted are not prohibited by the Constitution and are consistent with its letter and its spirit. I think I have shown that the power to make paper currency a legal tender in payment of debts is not prohibited to Congress by the Constitution, neither by the letter nor by the spirit of that instrument. No conclusion of law was ever plainer to me than that such a power exists at all times, subject to be exercised by Congress in its wisdom and in its discretion. The necessity for the exercise of the power is left wholly with Congress. Chief-Justice Marshall, in *McCulloch vs. The State of Maryland*, again says:

"But where the law is not prohibited, and is really calculated to effect any of the objects intrusted to the Government, to undertake here to inquire into the degree of its necessity would be to pass the line which circumscribes the judicial department and to tread on legislative ground. This court disclaims all pretensions to such a power.

"It is a satisfaction to know that the Supreme Court in making its decision on this subject, in twelfth Wallace, made no claim

that the power of Congress to authorize legal-tender notes was derived in any respect from the war powers of the Constitution. All concede that it is a power not to be exercised needlessly; neither is any other power of Congress to be exerted without reason. But of the occasion when the public good or the safety of the Government calls for its exercise, the Congress itself is the judge, subject only to the limitations heretofore stated.

"But, sir, aside from the Constitutional power of Congress, to make this kind of currency a legal tender, it is now vehemently insisted in certain quarters that its legal-tender quality has been from the first injurious to the best interests of the country. It is absolutely urged that the power to pay debts with this currency, standing firmly the equal of gold if not better, is a great and dangerous evil to the people. It is in daily use at this hour in all the transactions of life, from the most minute to the most extensive, from the purchase of a night's lodgings to the purchase of a railroad, or a line of ships. It is now transacting the business of every neighborhood, every village, and every city in the United States. It has been the basis of all contracts among the people for the last eighteen years. It is the measure now, at this very moment of time, of the obligation of parties to nine hundred and ninety-nine contracts out of every thousand in existence. Yet we are asked to believe that the legal-tender quality of this money, that quality which enables a party to pay a debt contracted with reference to it, is injurious to the public interests, and ought at once to be withdrawn. It has even been claimed that the money would be better without such quality, and that it would still circulate, with increased vigor and usefulness, after it had received the fatal blow aimed at it by its enemies.

"As well might you expect a man to walk erect through this hall after his heart had been taken from his body. The Senator from Delaware, on a former occasion, in strong, figurative language, said, 'This assumed legal-tender power is like the germ of a deadly fever.' He said he would destroy that germ without delay. Rather is the legal-tender power of our currency like the benignant action of the human heart, carrying a healthy and an indispensable circulation to the remotest extremities.

"Sir, I shall in a few moments take leave of this great question for the present. I have detained the Senate longer than I desired, but, as a member of the Committee on Finance, I have conceived it my duty to submit the reasons which govern my action. Let no one suppose that the financial question will disturb us here no more. The holders of amassed capital are grasping for additional power, and this question will come again and again as long as human cupidity can spy out new fields of profit to occupy, and new bounties and still

further special privileges to demand from the labor of the people. A vast money corporation, the most gigantic on earth, is aiming to centralize within itself all the powers of this Government over the currency, and, consequently, over the entire trade and business of the American people. That corporation, the National Bank Association, possesses already a combination of powers inconsistent with the safety of free government, and we have seen it within the past year clutch at all the remaining powers connected with the subject of the finances. The holders of privileged capital are also uttering their battle-cry for the future. Their demand for a strong government is now heard on every hand. No one need mistake their meaning. A strong government, in their estimation, is one in which the people are deprived as far as possible, and the farther the better, of all power to control public affairs. A call for a strong government to-day in our midst has the same meaning it has had in all the ages of the past—a government of the privileged few. Sir, I too am in favor of a strong government, but the strength which I wish my government to have is to be found only in the hearts of a free, self-governing people, inspired with a love of country because of its just and equal laws. On such a foundation no government can be overthrown; on any other, no government ought to stand."

The Presiding Officer: "Shall the amendments be engrossed and the bill be ordered to a third reading?"

The amendments were ordered to be engrossed, and the bill to be read a third time.

The bill was read the third time.

The result was announced as follows:

YEAS—Bailey, Bayard, Beck, Booth, Brown, Butler, Call, Cockrell, Coke, Davis of Illinois, Eaton, Farley, Garland, Groome, Grover, Hampton, Harris, Hereford, Hill of Georgia, Ingalls, Johnston, Jonas, Kernan, Lamar, McDonald, McPherson, Maxey, Morgan, Pendleton, Plumb, Pugh, Saulsbury, Saunders, Slater, Thurman, Vance, Vest, Voorhces, Walker, Wallace, Whyte, Williams, Withers—43.

NAYS—Allison, Anthony, Baldwin, Blair, Burnside, Cameron of Wisconsin, Dawes, Ferry, Hamlin, Hill of Colorado, Hoar, Kirkwood, Logan, McMillan, Morrill, Paddock, Platt, Rollins, Teller, Windom—20.

ABSENT—Blaine, Bruce, Cameron of Pennsylvania, Carpenter, Conkling, Davis of West Virginia, Edmunds, Jones of Florida, Jones of Nevada, Kellogg, Randolph, Ransom, Sharon—13.

So the bill was passed.

In the House, on February 18th, the refunding bill was considered.

Mr. Tucker, of Virginia: "I ask consent that House bill No. 4592, to facilitate the refunding of the national debt, which has been returned from the Senate with amendments, and is now on the Speaker's table, be printed with the Senate amendments in regular bill form."

There was no objection, and it was so ordered.

The bill, with Senate amendments, is as follows: [Strike out the parts in brackets, and insert the parts printed in italics.]

An act to facilitate the refunding of the national debt.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all existing provisions of law authorizing the refunding of the national debt shall apply to any bonds of the United States bearing a higher rate of interest than $4\frac{1}{2}$ per cent per annum which may hereafter become redeemable: *Provided*, That in lieu of the bonds authorized to be issued by the act of July 14, 1870, entitled "An Act to authorize the refunding of the national debt," and the acts amendatory thereto, and the certificates authorized by the act of February 26, 1879, entitled "An Act to authorize the issue of certificates of deposit in aid of the refunding of the public debt," the Secretary of the Treasury is hereby authorized to issue bonds (1) [in the] *to an amount* (2) [of] not exceeding \$400,000,000, (3) of denominations of \$50, *or some multiple of that sum*, which shall bear interest at the rate of 3 per cent per annum, (4) *payable semi-annually*, redeemable, at the pleasure of the United States, after 5 years, and payable (5) [ten] *twenty* years from the date of issue; and also (6) [certificates in the] *Treasury notes to an amount* (7) [of] *not exceeding* \$300,000,000, in denominations of ten (8) [twenty, and fifty] dollars, (9) *or some multiple of that sum not exceeding* \$1,000, either registered or coupon, bearing interest at (10) [the] *a rate* (11) [of] *not exceeding* 3 per cent per annum, (12) *payable semi-annually*, redeemable at the pleasure of the United States, after one year, and payable in ten years from the date of issue (13); and *no Treasury note of a less denomination than \$100 shall be registered*. The bonds and (14) [certificates] *Treasury notes* shall be, in all other respects, of like character and subject to the same provisions as the bonds authorized to be issued by the act of July 14, 1870, entitled "An Act to authorize the refunding of the national debt," and acts amendatory thereto: *Provided*, That nothing in this act shall be so construed as to authorize an increase of the public debt: *Provided further*, That interest upon the 6 per cent bonds hereby authorized to be refunded shall cease at the expiration of thirty days after (15) *publication of notice that the same have been designated by the Secretary of the Treasury for redemption*. (16) *It shall be the duty of the Secretary of the Treasury, under such rules and regulations as he may prescribe, to authorize public subscriptions, at not less than par, to be received at all depositories of the United States, and at all national banks, and such other banks as he may designate, for the bonds and for the Treasury notes herein provided for, for thirty days before he shall contract for or award any portion of said bonds or Treasury notes to any syndicate of individuals or bankers, or otherwise than under such public subscriptions; and if it shall happen that more than the entire amount of said bonds and Treasury notes, or of either of them, has been subscribed within said thirty days, he shall award the full amount subscribed to all persons who shall have made bona fide subscriptions for the sum of \$2,000 or less, at rates most advantageous to the United States, and the residue ratably among the subscribers in proportion to the amount by them respectively subscribed, at rates most advantageous to the United States.*

SECTION 2. The Secretary of the Treasury is hereby authorized, in the process of refunding the national debt, to exchange, at not less than par, any of the bonds or (17) [certificates] *Treasury notes* herein authorized for any of the bonds of the United States outstanding and uncalled bearing a higher rate of interest than $4\frac{1}{2}$ per cent per annum; and on the bonds so redeemed the Secretary of the Treasury may allow to the holders the difference between the interest on such bonds from the date of exchange to the time of their maturity, and the interest for a like period on the bonds or (18) [certificates] *Treasury notes* issued; (19) [but none of the provisions of this act shall apply to the redemption or exchange of any of the bonds issued to the Pacific Railway Companies;] and the bonds so received and exchanged in pursuance of the provisions of this act shall be canceled and destroyed; (20) *but*

none of the provisions of this act shall apply to the redemption or exchange of any of the bonds issued to the Pacific Railway Companies.

SEC. 3. (21) [Authority to issue bonds and certificates to the amount necessary to carry out the provisions of this act is hereby granted; and] The Secretary of the Treasury is hereby authorized and directed to make suitable rules and regulations to carry this act into effect (22) [: Provided that;] and the expense of preparing, issuing, advertising, and disposing of the bonds and (23) [certificates] *Treasury notes* authorized to be issued shall not exceed (24) [one quarter] *one half* of 1 per cent.

SEC. 4. That the Secretary of the Treasury is hereby authorized, if in his opinion it shall become necessary, to use (25) *temporarily* not exceeding \$50,000,000 of the standard gold and silver coin in the Treasury in the redemption of the 5 and 6 per cent bonds of the United States authorized to be refunded by the provisions of this act, (26) *which shall from time to time be repaid and replaced out of the proceeds of the sale of the bonds or Treasury notes authorized by this act*; and he may at any time apply the surplus money in the Treasury not otherwise appropriated, or so much thereof as he may consider proper, to the purchase or redemption of United States bonds or (27) [certificates] *Treasury notes authorized by this act* : *Provided*, That the bonds and (28) [certificates] *Treasury notes* so purchased or redeemed shall constitute no part of the sinking fund, but shall be canceled.

SEC. 5. From and after the 1st day of (29) [May] *July*, 1881, the 3 per cent bonds authorized by the first section of this act shall be the only bonds receivable as security for national-bank circulation, or as security for the safe-keeping and prompt payment of the public money deposited with such banks; but when any such bonds deposited for the purposes aforesaid shall be designated for purchase or redemption by the Secretary of the Treasury, the banking association depositing the same shall have the right to substitute other issues of the bonds of the United States in lieu thereof: *Provided*, That no bond upon which interest has ceased shall be accepted or shall be continued on deposit as security for circulation or for the safe-keeping of the public money; and in case bonds so deposited shall not be withdrawn, as provided by law, within thirty days after interest has ceased thereon, the banking association depositing the same shall be subject to the liabilities and proceedings on the part of the Comptroller provided for in section 5234 of the Revised Statutes of the United States: *And provided further*, That section 4 of the act of June 20, 1874, entitled "An Act fixing the amount of United States notes, providing for a redistribution of the national-bank currency, and for other purposes," be and the same is hereby repealed; and sections 5159 and 5160 of the Revised Statutes of the United States be and the same are hereby re-enacted.

(30) SEC. 6. *That the payment of any of the bonds hereby authorized, after the expiration of five years, shall be made in amounts to be determined from time to time by the Secretary of the Treasury, at his discretion, the bonds so to be paid to be distinguished and described by the dates and numbers, beginning for each successive payment with the bonds of each class last dated and numbered; of the time of which intended payment or redemption the Secretary of the Treasury shall give public notice, and the interest on the particular bonds so selected at any time to be paid shall cease at the expiration of thirty days from the publication of such notice.*

SEC. (31) [6] 7. That this act shall be known as "The funding act of 1881"; and all acts and parts of acts inconsistent with this act are hereby repealed.

The House proceeded to consider the amendments.

Mr. Frye, of Maine: "If the Speaker pleases, the Senate changed May to July. The committee changed July to September. Then the

committee retired from the change from July to September in order to allow the gentleman from Michigan to move the September amendment with another amendment. Now, if the House concurs in the Senate amendment, will the gentleman still have his right of moving to amend by changing that to September and something else? If not, then the gentleman from Michigan could offer his amendment at this point."

The Clerk read as follows:

Amend the fifth section by striking out "July," in the first line, and after the words "provided further," in line twenty and to and including the word "repeal," in line twenty-four; and by inserting the word "September" in the first line in place of the word "July," proposed to be stricken out.

Mr. Frye: "The amendment which the gentleman from Michigan offers is one, in my judgment, in the present condition of public sentiment, of very great importance. Sections 5220, 5221, 5222, and 5224 of the Revised Statutes of the United States provide for the voluntary liquidation of banking corporations. In that voluntary liquidation the bank itself, by the action of a certain number of its stockholders, may, under the law, redeem all its bonds on deposit in the Treasury for its circulation in the lawful currency of the United States; and two of these sections providing for that contingency were the revised acts of June, 1874, referred to in section 5 of this bill.

"Now, the bill proposed by the Committee on Ways and Means, in this section now under consideration, and the amendments proposed by the gentleman from Kentucky, provides for a repeal of that law of June, 1874, and the question meeting this House squarely is simply this: Does that repeal of the law of June, 1874, repeal the right of a national bank to go into voluntary liquidation and redeem its bonds by the use of lawful currency? And, Mr. Speaker, gentlemen are divided, and divided honestly, in their opinion on this subject. Some of the best lawyers in this country to-day are writing to Congress insisting that if the amendment recommended by the gentleman from Kentucky shall prevail, they hold that it will operate as an absolute repeal of all power on the part of the national banks voluntarily to liquidate and redeem their United States bonds deposited with the Secretary of the Treasury as security for circulation by lawful currency. If it does this, if it accomplishes this result, a gross and grave injustice is done to this great interest in this country. If it does not, then the complaint is without foundation. But, sir, a majority of the banking people of the country to-day fully believe that it does repeal that right.

"Mr. Speaker, why should there be any question about it? Why should it be left open to doubt? Here we are enacting a law touching the most sensitive thing in the world, finance (and gentlemen can see how sensitive a subject it is by observing what has transpired within the last week), and in that enactment we are met with questions of such gravity and

doubt as this. In legislating upon a subject so sensitive as this, why should it be left to a doubt if a single amendment, a few words incorporated in it, or if the English language can make it plain, certain, and unequivocal?

"Sir, the committee, in order to remove all doubt, agreed to an amendment offered by the gentleman from Ohio [Mr. McKinley], providing that nothing in this act shall be construed to affect these sections to which I called the attention of the House.

"But, Mr. Speaker, that very amendment is probably open to the point of order, if any gentleman here should make it; and under a former ruling of the Speaker it is very likely that it might be ruled out. What will be the effect? The friends of the bill reject Mr. Conger's amendment, also reject or have ruled out of order the amendment of the gentleman from Ohio [Mr. McKinley].

"What meaning will you convey to the country? What will be the signification of your action? Do you not give notice, practically, to the banks that they can not liquidate without redeeming their bonds held by the Treasury in their own circulation? By rejecting the McKinley amendment do you not send out word to the country that it is the purpose in framing this bill to prevent the banks from liquidating under the existing provisions of law? that such at any rate is your construction? Sir, I hope this House will do nothing of the kind, but will so amend the law that no man can fail to comprehend readily and understand clearly its provisions."

Mr. Price, of Missouri: "The gentleman from Kentucky [Mr. Carlisle], who has the principal charge of this bill, alleges and has endeavored to make gentlemen upon this side of the House believe, possibly has made gentlemen on that side of the House believe, that you do not intend to repeal the sections referred to by my friend the gentleman from Maine [Mr. Frye], when the last section of his bill provides in terms, not by implication, not by inference, but in terms, that this bill shall be called so-and-so, and that it shall repeal all acts and parts of acts in conflict with this act. And this act provides that you can not get the bonds out of the Treasury of the United States belonging to a bank that has deposited them there for circulation or for security of deposits made with them by the Government unless you deposit your own paper there for them. The section I refer to provides that lawful money may be deposited and these bonds taken up; while this bill says that they must return their own notes; and it would be base flattery not to call a man very foolish—that is as mild as I can put it—who does not know there never was a bank of issue established in this world that ever got in all of its own notes. And, consequently, if they can not get in their own notes, and if they can not get their bonds out any other way than by depositing their notes, they never can get their bonds. In other

words, by this fifth section you say they shall do a certain thing that is morally impossible for them to do. And then you say if they don't do it you will put them into the hands of a receiver under section 5234 of the Revised Statutes; and there is no getting away from that section.

"But the great bugbear about this thing is the cry as to the national banks. They are the troublesome element in this matter. There are gentlemen upon this floor, of intelligence, of integrity, of standing, not only here but at home, who rush to the front with as much velocity and ferocity whenever you name 'national banks' as the wildest bull that ever came from the mountains of Andalusia would rush upon a red flag.

"Oh, it is astonishing. What have the national banks done? They furnished a market for your bonds, and they did it at the solicitation of the Government, instead of your having to send your bonds to Europe, where you would have to send money to pay the coupons for interest accruing on them; and they did it for the purpose of aiding the Government to float its debt. But that is all forgotten, and the hue and cry was raised from one end of the country to the other that it would not do to put power in the hands of a few men."

Mr. Carlisle, of Kentucky: "Mr. Speaker: The fifth section of this bill has been so much misconstrued or so much misrepresented in various parts of the country, that I consider it my duty, notwithstanding the lateness of the hour, to say something in explanation of its provisions. It is not my purpose to enter upon an argument in support of the section except so far as the argument may be necessary to explain the principles upon which it was framed, and to state fully its purpose and effect. It contains four separate and distinct provisions, all relating, however, to the same general subject, and all calculated, in my opinion, to aid materially in the successful inauguration and maintenance of the financial policy advocated by those of us who believe that the outstanding 5 and 6 per cent bonds of the United States should be funded at the minimum rate of interest paid by other first-class nations, and that the national banks should be required to assist in accomplishing this result. In the first place, it provides, as amended in the Senate, that from and after the 1st day of July next the 3 per cent bonds authorized by the bill, and no others, shall be receivable as security for the circulating notes of the national banks, and as security for the safe-keeping and prompt payment of the public money deposited with such banks.

"This is certainly a very plain and simple provision, and it seems to me that it requires much more ingenuity to pervert its true meaning than it does to ascertain it; and yet for a while a persistent attempt was made to convince the public that if this provision should be adopted all national banks having 4 and 4½

per cent bonds on deposit to secure their circulation and public deposits would be compelled after the date named to withdraw them and substitute bonds bearing 3 per cent, or go into liquidation. It is almost impossible to make an argument against such a construction as this; nor is it necessary to attempt it, as it is now conceded, I believe, everywhere, that there was not a shadow of foundation for it. It was one of the devices adopted by interested parties to alarm the banks and to precipitate a resort by them to the exercise of that dangerous power of contraction conferred upon them by the act of 1874; and in connection with other statements equally groundless it actually produced a rapid withdrawal of circulation, which for a few days threatened disaster and ruin to all the business interests of the people.

"Sir, this is not the first effort that has been made in Congress to compel these creatures and agencies of the Government to assist it in reducing the interest charge upon the people, and, if it shall fail now, it will not be the first demonstration of their power over the financial legislation of the country. It is a humiliating confession for the representatives of the people to make, but it is true, nevertheless, that ten years ago, when these institutions were fewer in number than they are to-day, when their organization was less perfect, and when their combined capital was not so great, they had power enough to defeat in this House a provision which was designed by the present Secretary of the Treasury to compel them to aid in funding a large part of the public debt at 4, 4½, and 5 per cent. On the 2d day of February, 1870, Mr. Sherman, as chairman of the Finance Committee in the Senate, reported back to that body, as a substitute for a bill previously introduced by Mr. Sumner, a bill which after some amendments was finally passed and is now known as the funding act of July 14, 1870. The bill as reported by Mr. Sherman provided for the issue and sale of \$400,000,000 of bonds bearing interest at the rate of 5 per cent, \$400,000,000 bearing interest at the rate of 4½ per cent, and \$400,000,000 bearing interest at the rate of 4 per cent; and in order to create a certain market for a large part of these securities it contained in its eighth section the following provisions, which I beg leave to submit for the consideration of gentlemen who have denounced what they have been pleased to call the 'forced loan' feature in the measure now before us. The eighth section of Mr. Sherman's bill was as follows:

"*And be it further enacted*, That on and after the 1st day of October, 1870, registered bonds of any denomination not less than \$1,000, issued under the provisions of this act, and no other, shall be deposited with the Treasurer of the United States as security for notes issued to national-banking associations for circulation under an act entitled "An act to provide a national currency secured by a pledge of United States bonds, and to provide for the circulation and

redemption thereof," approved June 3, 1864; and all national-banking associations organized under said act, or any amendment thereof, are hereby required to deposit bonds issued by this act, as security for their circulating notes, within one year from the passage of this act, in default of which their right to issue notes for circulation shall be forfeited; and the Treasurer and the Comptroller of the Currency shall be authorized and required to take such measures as may be necessary to call in and destroy their outstanding circulation, and to return the bonds held as security therefor to the association by which they were deposited in sums of not less than \$1,000: *Provided*, That any such association now in existence may, upon giving thirty days' notice to the Comptroller of the Currency, by resolution of its board of directors, deposit legal-tender notes with the Treasurer of the United States to the amount of its outstanding circulation and take up the bonds pledged for its redemption: *And provided further*, That no more than one third of the bonds deposited by any bank as such security shall be of either of the classes of bonds hereby authorized on which the maximum rate of interest is fixed at 4½ or 5 per cent per annum."

"The next section provided that the circulating notes which any banking association might receive from the Comptroller of the Currency should not exceed 80 per cent of the par value of the bonds deposited instead of 90 per cent, as they may now obtain under the law.

"It will be observed that the section just read is much more severe in its requirements than anything contained in this bill. It proposed to compel national banks not only to deposit the new bonds and no others as security for circulation after a certain date, but it went further and declared that their right to issue notes for circulation should be absolutely forfeited unless they should within one year withdraw all the old bonds they then had on deposit and substitute the new ones in their places. This was a sweeping and radical provision, which went to the full extent of asserting the absolute power of Congress to legislate according to its own conception of the public interests concerning the character of the bonds that should be deposited or permitted to remain on deposit as security for the circulating notes of these corporations. That such power exists in Congress has been asserted again and again by some of the most eminent men in the country, and by none more frequently or emphatically than Mr. Sherman himself.

"These assertions are sufficient to show that the policy indicated in the first clause of the fifth section of the pending bill is not now presented to the country for the first time, and that the right and duty of Congress to adopt it when in its judgment the interests of the Government and people require it have been asserted and maintained, not only by men of eminent ability as lawyers and large experience in financial affairs, but by a majority of two to one in the Senate when the very first attempt was made to fund our enormous public debt at a reduced rate of interest. It was then insisted—and properly insisted, in my opinion—that those institutions which, in the language of Mr. Sherman, had, prior to 1870, 'made on

the average from 15 to 20 per cent annually upon the franchise derived from the United States,' should be required to contribute their just proportion to the general welfare by receiving and using as a basis for their circulation public securities bearing at least as low a rate of interest as the Government proposed to allow the savings-banks and the trustees and guardians of dependent widows and orphans throughout the country. But, sir, the national banks resisted the reasonable demands of the Government then as they are resisting them now, and the result was that the eighth section of Mr. Sherman's bill was defeated in this House. A committee of conference was appointed, and in lieu of that section it reported the following:

"And be it further enacted, That from and after the passage of this act the Treasurer of the United States shall receive no other than registered bonds issued under the provisions of this act as security for the circulating notes of national-banking associations issued under the act entitled "An act to provide a national currency secured by a pledge of United States bonds, and to provide for the circulation and redemption thereof," approved June 3, 1864, or any act supplementary or amendatory thereof."

"This report was signed by Hon. Robert O. Schenck and Hon. Samuel Hooper on the part of the House, and by Hon. John Sherman, Hon. Charles Sumner, and Hon. Garrett Davis on the part of the Senate. The section in this form—requiring the banks to deposit the new bonds from and after the passage of the act, and not giving them time, as the fifth section of this bill does—received the votes of eighty-eight members of this House, and among them were the gentleman from Michigan [Mr. Conger], the gentleman from Indiana [Mr. Orth], and two gentlemen from Pennsylvania [Mr. Kelley and Mr. O'Neill], all of whom are still members of this body, and all of whom, except one [Mr. Kelley], are now opposing this feature of the bill. The conference report, however, was not agreed to here, and the Senate was compelled at last to recede from its position and allow the bill to become a law without the eighth section or any equivalent provision. When this result became inevitable, by reason of the active and determined opposition of the national banks, Mr. Sherman, who had been from the beginning an earnest and consistent advocate of the justice and policy of the compulsory clause, announced the fact to the Senate in a speech which I commend to the serious consideration of gentlemen who are opposing this clause of the fifth section. After stating that there was 'a very unreasonable and unnecessary clamor raised by the banks against that provision,' he said:

"I wish now to record my deliberate judgment that in this conclusion to which we have been compelled to arrive by the action of the House we are doing the national banks a great injury, which will impair their influence and power among the people, and that the opposition of the national banks to this provision which would have required them to aid in the funding of the public debt will tend more to weaken and de-

stroy them than anything that has transpired since their organization. I do not see how we can go before the people of the United States and ask them to lend us gold at par for our bonds, when we refuse to require agencies of our own creation to take them; when we even refuse to require new banks not yet organized to take these new bonds, and when we refuse to require old banks, which have made on the average from 15 to 20 per cent annually upon the franchise derived from the United States, to aid us to this extent in funding the national debt.

"But, sir, the vote of the House shows the power of the national banks. It is so great, at least in the House, that in order to secure a funding bill we have been compelled to abandon all provisions in regard to the national banks; but I give notice that in the future I for one shall be prepared at all times to require the national banks to take that class of bonds which we propose in this bill, and I have no doubt this will be the result. But for the present, in deference to the wishes of the House, we have withdrawn the section in regard to national banks.

"Now, sir, for the second time since the organization of these institutions the representatives of the people find themselves compelled in the discharge of their public duties to encounter the almost united opposition of more than two thousand corporations of their own creation—opposition to a financial policy already approved by both branches of the legislative department—and thus we are again confronted with the naked question whether Congress or the banks shall finally determine what that policy shall be. What was the primary purpose of the Government in establishing this system in the first instance? If any gentleman entertains a doubt upon this subject, let him read the reports in which Mr. Chase, then Secretary of the Treasury, suggested and recommended the passage of the original national-bank act, and he will be convinced that the principal purpose of that eminent financier was to create a certain demand and reliable market for Government securities. Considered with reference to that purpose, it was unquestionably a wise stroke of financial policy, and it justly won for its author the highest encomiums from ministers of finance in all parts of the world. In fact, the constitutional power of Congress to create these corporations can not be maintained except upon the ground that they were to constitute, when organized, agencies of the Government for certain public purposes.

"Since the celebrated judgment of Chief-Justice Marshall in the case of the United States Bank, no one has ventured to affirm that Congress possesses power under the Constitution to create corporations for the transaction of purely private business or for the sole benefit of private individuals. In order to come within the scope of congressional power they must be created as means or instrumentalities for the execution of some principal power delegated by the Constitution. They must be public agencies, and not mere private associations. The language of the court in the case alluded to is so clear and comprehensive that it is impossible to mistake its meaning. It defines

with the utmost precision the foundation and extent of the power in question, and in so doing necessarily excludes from its operation all cases not coming within the terms of the definition itself. The court said:

"The power of creating a corporation, though appertaining to sovereignty, is not like the power of making war, or levying taxes, or of regulating commerce, a great substantive and independent power, which can not be implied as incidental to other powers or used as a means of executing them. It is never the end for which other powers are exercised, but a means by which other objects are accomplished. . . . The power of creating a corporation is never used for its own sake, but for the purpose of effecting something else. No sufficient reason is, therefore, perceived why it may not pass as incidental to those powers which are expressly given, *if it be a direct mode of executing them.*

"And again the court said:

"We admit, as all must admit, that the powers of the Government are limited, and that its limits are not to be transcended. But we think the sound construction of the Constitution must allow to the National Legislature that discretion, with respect to the means by which the powers it confers are to be carried into execution, which will enable that body to perform the high duties assigned to it, in the manner most beneficial to the people. Let the end be legitimate, let it be within the scope of the Constitution, and all means which are appropriate, which are plainly adapted to that end, which are not prohibited, but consist with the letter and spirit of the Constitution, are constitutional.

"In another place the court, speaking of this same power, said:

"Had it been intended to grant this power as one which would be distinct and independent, to be exercised in any case whatever, it would have found a place among the enumerated powers of the Government. But being considered merely as a means to be employed only for the purpose of carrying into execution the given powers, there could be no motive for particularly mentioning it.

"Congress did not create these banking associations, or have the power to create them, merely for the private emolument of their stockholders, but it established them as agencies of the Government to co-operate with it and assist it in conducting its financial operations. Whatever private gain or profit may accrue to those who see proper to engage in the business of banking under the system is incidental only to the main purpose of the law; or, in other words, the prospect of such gain was the inducement which public policy indicated should be offered in order to make the experiment a success and secure a market for the Government loans.

"Having the express power to borrow money on the credit of the United States, it might well be argued that a national banking system could be created under the authority of congressional legislation as a necessary and proper means to accomplish that object; but this obviously implies that there must be absolute and continued governmental control over the means employed, for otherwise the instrument would become the master, or at least independent of the authority for whose use it was created. If, therefore, there had

been no express reservation of the right to alter, amend, or repeal the national banking law, such right would have necessarily resulted from the nature and objects of the legislation. Its existence would have been just as clear in such a case as in the case of a public office created by statute for the more convenient or effective execution of a State or Federal power. There is no difference in this respect between a public agency and a public office.

"There are no elements of a contract in such legislation, and therefore the extent to which the Government will or ought to go in the exercise of its power of supervision and control is always a question of policy and not a question of power. Now, however, we are told, in effect, that the Government ought no longer to use the national banks for one of the purposes, the principal purpose, of their creation: that to require them to deposit 3 per cent bonds, after a certain date, to secure the circulating notes which the United States furnishes and guarantees would be an act of bad faith; and that it would so diminish the profits realized upon their circulation as to compel them to withdraw it, and thus inflict great injury upon the country by a contraction of the currency. It has not been very long since the policy of contraction was a favorite one with some who now protest most strongly against it, but, having pursued it until it nearly crushed the life out of every legitimate industry in the land, they appear at last to confess, in an indirect way, that it was a mistake. I agree with them that a large contraction of the currency, especially if it be sudden and unexpected, amounts to a public calamity, and I shall endeavor before concluding to show that one of the main purposes of the fifth section of this bill is to make such contraction impossible in the future.

"I will not discuss the question of good faith with the banks or their advocates; it is not involved in this proposed legislation, and can not be introduced in the debate except upon the utterly inadmissible theory that the Government and people of the United States are bound by some sort of compact to furnish these institutions as long as they exist with bonds bearing the same rate of interest as those now outstanding. They now hold and have on deposit \$206,486,050 in bonds bearing interest at the rate of 5 and 6 per cent, and by the express terms of the laws under which they were created the Government has a right to redeem and cancel every one of them at the end of the current fiscal year. It has an undoubted right to redeem and destroy them without issuing any bonds whatever to take their places, and it would not be an act of bad faith to do so. But it has not the means to do this, and therefore it proposes to issue and sell bonds bearing interest at the rate of 3 per cent per annum, and with the proceeds of these sales it proposes to pay the \$206,486,050 held by the banks as well as the \$465,000,000 held by other

people. If this can be accomplished—and many of the best business-men and ablest financiers in the country believe it can be—there will be an annual saving to the people of more than \$14,000,000 in interest on the public debt, to say nothing of the reduction which would almost certainly take place in the commercial rate of interest all over the country. If anybody has a right to complain of the funding of the public debt at 3 per cent—which I deny—it is certainly not the banks who want to issue circulation upon the bonds, but the widows and orphans and other beneficiaries of trust estates whose entire income consists of the interest received upon the securities in which the principal is required to be invested.

“When a private individual, not engaged in the business of banking, purchases, either for himself or as guardian, executor, or trustee, 3 per cent United States bonds to the amount of \$100,000, the whole annual income derived from them is \$3,000; but if a national bank purchases the same amount and description of bonds, and deposits them with the Treasurer as a basis for its circulation, it receives the same amount, \$3,000, annually as interest on the bonds, and besides the Government immediately returns to it \$90,000 of guaranteed notes, of which \$85,500 can be loaned out to the people for its own exclusive benefit at such rates of interest as it will command in the market. It is thus enabled to receive out of the public Treasury \$3,000 annually as interest on its bonds, and if the commercial rate of interest be 6 per cent it receives an additional \$5,130 as interest on the \$85,500 loaned out. From this last amount, however, there should be deducted the sum of \$900, being the 1 per cent tax on circulation, and \$81, the estimated average annual amount of redemption expenses, so that the bank in fact receives the net sum of \$7,149 annually, as against \$3,000 received by the private individual on precisely the same investment.

“But, Mr. Speaker, let us inquire briefly whether any injustice will be done to the national banks, or any hardship will be imposed upon them, by the provision in the fifth section that after July next none but the 3 per cent bonds shall be receivable as security for circulating notes and public deposits. And especially let us inquire whether on that account their profits on circulation will be so diminished as to compel them, or even justify them, in withdrawing their notes and contracting the currency. If the funding contemplated by this bill shall be successfully accomplished, there will be hereafter no Government securities outstanding except the four and a half per cents, the four per cents, and the three per cents which we now propose to authorize; and the banks, if they issue circulation at all, must do so upon one or the other of these classes of bonds. It is susceptible of mathematical demonstration that they can issue circulation more profitably upon a 3 per cent bond at par

than they can upon either a 4½ per cent or a 4 per cent, even at the prices for which they are at present selling in the money market; and it is conceded by every one, whose opinion is at all worthy of consideration, that if a 3 per cent shall be issued and sold at par the prices of the other two classes will advance to such a figure as will make them yield to the investor about the same rate of interest on his actual outlay.

“During the last eleven years, from March 1, 1870, to September 1, 1880, including the whole period of financial distress in this country, the average annual earnings of all the national banks in the United States, numbering 1,481 at the beginning of that period and 2,072 at its close, amounted to 8·4 per cent upon their entire capital and surplus. At the date last mentioned their capital was \$454,215,062, and their accumulated cash surplus was \$120,145,649. This surplus represents net accumulated gains over and above all taxes, expenses, and dividends. During the same period of eleven years they have declared dividends to the amount of \$479,448,181; that is, their dividends alone have exceeded the whole amount of their capital at the end of the period, and in addition they have set apart since their organization and now hold, as just stated, \$120,145,649 as a surplus fund to be divided among their stockholders whenever they see proper to close up their business.

“When we remember that these remarkable results have been accomplished, notwithstanding the general paralysis of business which prevailed during five years of this period, we can appreciate in some measure at least the immense value of the franchise which the Government has conferred upon these institutions, and in return for which it now asks them not to make any substantial sacrifice, but simply to assist it in the negotiation of a loan at 3 per cent in order that the people who have patiently borne such heavy burdens in the past may be relieved hereafter from an annual interest charge of over \$14,000,000. Sir, they can not afford to reject this reasonable demand, and he will be a most unwise and dangerous friend of the national banking system who by his vote or otherwise places the beneficiaries of that system in an attitude of defiance to the will of Congress and the people on this subject.”

The Speaker: “The question recurs on ordering the main question on concurring in the Senate amendment with the amendment of the gentleman from Michigan.”

The main question was ordered.

The question was taken; and it was decided in the negative—yeas 117, nays 132, not voting 41.

So the Senate amendment was not concurred in with the amendment of Mr. Conger.

The amendments of the Senate were then concurred in, and the Speaker declared that the bill had passed both Houses of Congress.

On March 3d the following veto message was received.

The Speaker: "The Chair lays before the House the following message from the President of the United States."

The Clerk read as follows:

To the House of Representatives:

Having considered the bill entitled "An act to facilitate the refunding of the national debt," I am constrained to return it to the House of Representatives, in which it originated, with the following statement of my objections to its passage.

The imperative necessity for prompt action, and the pressure of public duties in this closing week of my term of office, compel me to refrain from any attempt to make a full and satisfactory presentation of the objections to the bill.

The importance of the passage at the present session of Congress of a suitable measure for the refunding of the national debt, which is about to mature, is generally recognized. It has been urged upon the attention of Congress by the Secretary of the Treasury and in my last annual message. If successfully accomplished, it will secure a large decrease in the annual interest payment of the nation; and I earnestly recommend, if the bill before me shall fail, that another measure for this purpose be adopted before the present Congress adjourns.

While in my opinion it would be wise to authorize the Secretary of the Treasury, in his discretion, to offer to the public bonds bearing $3\frac{1}{4}$ per cent interest in aid of refunding, I should not deem it my duty to interpose my constitutional objection to the passage of the present bill if it did not contain, in its fifth section, provisions which, in my judgment, seriously impair the value, and tend to the destruction of the present national-banking system of the country. This system has now been in operation almost twenty years. No safer or more beneficial banking system was ever established. Its advantages as a business are free to all who have the necessary capital. It furnishes a currency to the public, which for convenience and the security of the bill-holder has probably never been equaled by that of any other banking system. Its notes are secured by the deposit with the Government of the interest-bearing bonds of the United States.

The section of the bill before me which relates to the national-banking system, and to which objection is made, is not an essential part of a refunding measure. It is as follows:

SECTION 5. From and after the 1st day of July, 1881, the 3 per cent bonds authorized by the first section of this act shall be the only bonds receivable as security for national-bank circulation, or as security for the safe-keeping and prompt payment of the public money deposited with such banks; but when any such bonds deposited for the purposes aforesaid shall be designated for purchase or redemption by the Secretary of the Treasury, the banking association depositing the same shall have the right to substitute other issues of the bonds of the United States in lieu thereof: *Provided*, That no bond upon which interest has ceased shall be accepted or shall be continued on deposit as security for circulation or for the safe-keeping of the public money; and in case bonds so deposited shall not be withdrawn, as provided by law, within thirty days after interest has ceased thereon, the banking association depositing the same shall be subject to the liabilities and proceedings on the part of the Comptroller provided for in section 5234 of the Revised Statutes of the United States: *And provided further*, That section 4 of the act of June 20, 1874, entitled "An act fixing the amount of United States notes, providing for a redistribution of the national-bank currency, and for other purposes," be and the same is hereby repealed; and sections 5159 and 5160 of the Revised Statutes of the United States be and the same are hereby re-enacted.

Under this section it is obvious that no additional banks will hereafter be organized, except possibly in a few cities or localities where the prevailing rates of interest in ordinary business are extremely low. No new banks can be organized, and no increase of the capital of existing banks can be obtained, except by the purchase and deposit of 3 per cent bonds. No

other bonds of the United States can be used for the purpose. The one thousand millions of other bonds recently issued by the United States, and bearing a higher rate of interest than 3 per cent, and therefore a better security for the bill-holder, can not, after the 1st of July next, be received as security for bank circulation. This is a radical change in the banking law. It takes from the banks the right they have heretofore had under the law to purchase and deposit, as security for their circulation, any of the bonds issued by the United States, and deprives the bill-holder of the best security which the banks are able to give, by requiring them to deposit bonds having the least value of any bonds issued by the Government.

The average rate of taxation of capital employed in banking is more than double the rate of taxation upon capital employed in other legitimate business. Under these circumstances, to amend the banking law so as to deprive the banks of the privilege of securing their notes by the most valuable bonds issued by the Government will, it is believed, in a large part of the country, be a practical prohibition of the organization of new banks, and prevent the existing banks from enlarging their capital. The national banking system, if continued at all, will be a monopoly in the hands of those already engaged in it, who may purchase Government bonds bearing a more favorable rate of interest than the 3 per cent bonds prior to next July.

To prevent the further organization of banks is to put in jeopardy the whole system by taking from it that feature which makes it as it now is, a banking system free upon the same terms to all who wish to engage in it. Even the existing banks will be in danger of being driven from business by the additional disadvantages to which they will be subjected by this bill. In short, I can not but regard the fifth section of the bill as a step in the direction of the destruction of the national-banking system.

Our country, after a long period of business depression, has just entered upon a career of unexampled prosperity.

The withdrawal of the currency from circulation of the national banks and the enforced winding up of the banks in consequence, would inevitably bring serious embarrassment and disaster to the business of the country. Banks of issue are essential instruments of modern commerce. If the present efficient and admirable system of banking is broken down, it will inevitably be followed by a recurrence to other and inferior methods of banking. Any measure looking to such a result will be a disturbing element in our financial system. It will destroy confidence, and surely check the growing prosperity of the country.

Believing that a measure for refunding the national debt is not necessarily connected with the national-banking law, and that any refunding act would defeat its own object if it imperiled the national-banking system or seriously impaired its usefulness; and convinced that section 5 of the bill before me would, if it should become a law, work great harm, I herewith return the bill to the House of Representatives for that further consideration which is provided for in the Constitution. RUTHERFORD B. HAYES.

EXECUTIVE MANSION, March 3, 1881.

Mr. Tueker, of Virginia: "I move that the message of the President be printed, and that it do lie upon the table, subject to be called up at a future time for consideration."

The Speaker: "The question is on the motion to postpone the present consideration."

The question was taken; and there were—yeas 138, nays 116, not voting 36. No further action was taken on the bill.

In the House, on January 5th, the bill to establish a board of commissioners of interstate commerce was taken up.

Mr. Reagan, of Texas: "At the threshold has been raised a question of the extent of our authority. When we come to look at this subject we are confronted by the fact that most of the railroad corporations are the creatures of the State governments. So far as the power of Congress over this subject goes it is derived from the clause of the Constitution which confers upon Congress the power to regulate commerce among the States. It has to that extent the power to regulate commerce. That power carries with it no other powers over these corporations. The Congress have no power, and this committee and this bill assume no power, to operate on the railroads as railroads, or upon their franchises or corporate rights. And when the committee have been asked to remedy other evils, such as the watering of stock as a pretext of levying additional tribute upon the people, we have had to meet the friends of such propositions as that with the statement that we have no power, however much we sympathize with them, to take hold of these corporations and deal with them as such, but our powers are limited alone to the regulation of commerce among the States. While under an unbroken line of precedents the Supreme Court have held that the power is exclusively in Congress to regulate interstate commerce, they hold that the power of Congress is not only exclusive, but that it is ample and as complete in every respect as the power of the State to regulate commerce within the State.

"Perhaps I may as well say that Mr. Story, in his 'Commentaries,' and the justices of the Supreme Court, in their opinions, a number of them, refer to the fact that the point has been made that railroads were not in existence when the Constitution was made, from which it has been inferred that its provisions did not cover the regulation of commerce on railroads. The papers connected with the formation of the Federal Constitution and the transition from the Articles of Confederation to the constitutional government, show that the question which was most conspicuous in those discussions was one which looked to limiting the power of a State to legislate in a hostile manner against the commerce of its sister States, and to conferring upon Congress a power which would prevent them from doing so.

"It is held by the Supreme Court in some of its decisions that it was an evidence of the wisdom, the foresight, and the prescience of that convention that in its few simple, elemental rules of government it was wiser than it could itself foresee, by making a regulation which applied to all the future modes of carrying on commerce among the States, as well as to those which existed at the time. That is as much as I desire to say on that point.

"We take the position that we have no power to regulate commerce over railroads outside of that power which follows the authority to regulate commerce among the States. With that settled under the provisions of the

Constitution as interpreted by the Supreme Court, our pathway is clear on the question of power.

"I desire, now, to call the attention of the House to the provisions of the substitute offered by myself for the original bill. And I desire the attention of the House for a few moments while I endeavor to show that by labor and study the Committee on Commerce of the Forty-fifth Congress succeeded in developing a few simple, plain, clear, and easily understood rules that will obviate the greater number of complaints against the action of the railroads, without in any way embarrassing the railroads or crippling their usefulness.

"And I desire to say here, that in three Congresses, and on three committees, I have heard no member of the committee of the House express any opinion which indicated an hostility to railroads. We all realize their beneficent effect in building up our commerce, in promoting the prosperity of the country, and generally in contributing to the progress of the civilization and wealth of our country. No purpose has existed to cripple them; no one has expressed any desire to inflict a serious injury upon those great interests.

"How do we meet this great question? We propose, first, that one man should not be charged more than another man for like services by a railroad. That is a simple rule, so elemental in its truth that no one can or will controvert its justice or propriety.

"What next? As a corollary to that we propose to say that no rebates or drawbacks shall in any case be allowed. Rebates and drawbacks are simply a means of discrimination which we propose to cut off.

"Next, we propose that the people shall not be deprived of the benefit of competition among these corporations by their pooling freights between competing lines. We propose to secure to the people the benefits of full competition.

"We propose, next, to protect the people of localities by a partial restriction upon the powers of corporations, not by taking away their power of discrimination, but by limiting their power of discrimination between places. And the best rule which we were able to adopt, which does not quite approach equity, but leaves a larger discretion than strict equity would justify, being the best rule we could adopt, is one by which we declare that more shall not be charged for a shorter than for a longer distance on the same haul. For instance, we declare that no more shall be charged for a car-load of freight for one hundred miles than for three hundred or five hundred miles on the same line.

"Remember, we do not use the term *prorate*, we do not use the idea *prorate*. We simply make the car-load the unit. We then provide that more shall not be charged for a car-load for a shorter than for a longer distance.

"Now to illustrate the necessity of this. The sworn testimony before the Committee on Commerce of the Forty-fourth Congress shows that freight from the city of Pittsburg, to be sent to Philadelphia, in the same State, could be placed on the Ohio River and sent down the Ohio River five hundred and forty miles to the city of Cincinnati, where there are competing lines of railroad, and from there sent back through Pittsburg to Philadelphia cheaper than it could be sent directly from Pittsburg to Philadelphia.

"A year ago last winter the commercial bodies of New York and Philadelphia stated before our committee that they could ship articles of commerce from Philadelphia and New York to the city of Boston, and from there ship them to the West cheaper than they could send them directly from those cities to the West. My friend from Nevada here [Mr. Daggett] has the evidence, which, if he has the opportunity, he will present to the House, showing that a car-load of freight sent from Omaha to the West will be charged more if it stops at the Palisades, in Nevada, than if it went to San Francisco and was brought back. Freights could be taken from Omaha to San Francisco on through rates, and back to the Palisades on way rates, as cheap or cheaper than they could be taken from Omaha directly to the Palisades.

"I could go on and multiply instances of this kind to an indefinite extent, showing the necessity of limiting the power of these corporations to discriminate in favor of one locality or business, and against another locality or business, to enrich one town or city, and impoverish another town or city.

"When these corporations were created it was for the purpose of furnishing conveniences of transportation to all the people, and not as instruments of oppression to any.

"These are all the provisions of the proposed bill except one. We require these railroads to print and post up their schedule rates of freight. They say they do that now. If they do, then they pay no respect to their schedules. It was denied by the President of the New York Central Railroad, and by the President of the Erie Railroad, in writing over their own signatures, in answer to an inquiry of the Chamber of Commerce of the city of New York, that they discriminated in rates or made any special rates, and immediately succeeding that denial proof was made before the committee of the New York Legislature engaged in the investigation of the subject that six thousand special contracts had been made by the New York Central Railroad in one year preceding that time—that many instances of special rates, of discriminations.

"I am speaking now of the railroads themselves, not the stockholders, for these fare but little better than the other people of this country. It is the managers, the officers, who profit by the wrongs inflicted upon the people and

the stockholders. One of the modes of doing this is by the organization of corporations within corporations, rings within rings, to control particular branches of commerce in their own interest, and then to exercise the power of discrimination as between men and places, to secure a monopoly in the particular trade. But I pass from that branch to the subject.

"These are the provisions of the bill—simple, easily understood, incontrovertible, on account of the practical truth which underlies and supports each of them. We propose to remedy these evils. We propose three remedies: first, a civil action in behalf of the party aggrieved by a violation of the provisions of this bill, with triple damages in case of recovery; second, a *qui tam* action—a civil suit to be brought and conducted by a public officer where the litigants are unable to combat the power of these vast corporations; and on the successful prosecution of such suit the penalty is to be not less than \$1,000. In addition to this we propose by the bill which I advocate to allow a criminal remedy by indictment against the officers and agents of the corporations violating the law, with a penalty of \$1,000. These measures do not involve imprisonment; they involve pecuniary liability only; but they have been intentionally made sufficiently vigorous to prevent a willful violation of the law.

"But if these simple provisions of the bill, with these remedies so easily understood, were adopted, and nothing more, the measure would not meet the expectations of the public. I looked to the action of the various States to see why it was that State legislation of a somewhat similar character had been ineffectual. I found that suits often failed for want of evidence. When one of the officers of these corporations was summoned before the tribunals of justice and put upon the stand as a witness, he declined to testify. When asked for his reasons, he would say he could not testify without criminating himself; and so he was permitted to stand aside. To overcome this difficulty, to open the mouths of these gentlemen who know what they are doing, we propose to compel them to testify in civil suits in which they are parties, with the reservation that their testimony shall not be used against them in criminal proceedings. This is not an unusual, but in such cases a necessary remedy.

"Again, in States where equitable powers were not given, in the trial of civil causes of this kind it often became necessary to get facts from the books, papers, and documents of these corporations, and when they declined to surrender them the court was powerless to enforce their production. To overcome this difficulty we provide that the courts trying civil cases under this bill shall have equitable as well as legal powers, and may compel the production of books and papers, may compel discovery as in any other proceeding in equity. Thus we provide for opening the mouths, for opening the books, papers, and documents of these cor-

porations, so as to prevent the concealment of facts necessary to the ends of justice, and to prevent evasions of law which would defeat the purposes of the bill.

"These, briefly stated, are the provisions of the bill which I propose to ask the House to adopt as a substitute for the original bill, that substitute being now in fact the bill of the majority."

Mr. Singleton, of Illinois: "I would like to get the gentleman's opinion upon the question of the power of the States to furnish the same remedies proposed by this bill."

Mr. Reagan: "As to the power of the State, it is as full and ample as the power of the General Government, though limited to commerce wholly within the State. The State can adopt the same provisions with reference to State commerce that we adopt with reference to interstate commerce."

Mr. Singleton: "Does not this bill apply to internal commerce?"

Mr. Reagan: "We can not control that; we have not the power to control commerce wholly within a State."

Mr. Singleton: "All the commerce within a State must be internal commerce, of course."

Mr. Reagan: "I will tell my friend how we meet that difficulty. Of course when goods are shipped in a State the commerce originates in the State; but the marks upon the goods indicate whether they are destined to stop within that State or go to another. These marks are put upon the goods, not by the railroad company but by the shipper; and if the shipper in Illinois marks his freight for New York or any other State than Illinois, it is interstate commerce; and the law takes hold of it and protects it from the initial point to the time the freight is landed at its destination."

Mr. Singleton: "What I wished to ask was, whether that commerce would be subject to inspection at the terminal point? Whether the commodity the gentleman treats as commerce *in transitu* would be subject to inspection or not? Is that your understanding?"

Mr. Reagan: "I am not sure that I understand the gentleman's question. There is nothing in the bill in reference to that, however."

Mr. Singleton: "This is a very important inquiry, because our courts have held that it is not even an article of commerce until after it has been inspected, much less commerce itself."

Mr. Reagan: "Very well. However that may be, when a man ships five tons of wheat from Chicago to New York I submit that it is commerce, and it does not take an inspector to make it wheat."

Mr. Rice, of Massachusetts: "I wish to ask the gentleman from Texas whether he believes that Congress has power to oblige the New York Central Railroad in any way to modify its charges on freight received by it at Buffalo, either from railroads coming into Buffalo or by water-carriage over the lakes, that freight to be carried within the State of New York by

the New York Central Railroad, a corporation of the State of New York, and not existing outside of the State of New York."

Mr. Reagan: "I will answer the gentleman from Massachusetts as I have already answered the gentleman from Illinois. Whether the commerce is interstate or State commerce depends upon the fact as to whether it is shipped from one State and destined to another or to a foreign country, or shipped from a foreign country for one of the States. If the commerce is shipped, the bill specially provides that from the point of shipment in the State where it starts to the point of its destination it is interstate commerce in the sense of the law, whether it goes over one or many railroads. It would be undoubtedly as much interstate commerce passing part of the way over water as if it passed all the way over land. The question of water or land transportation has nothing whatever to do with the character of the commerce, but simply its origin and destination. Its origin and destination fix the fact."

Mr. Singleton: "I would like to ask the gentleman from Texas myself, further, if a stream should have its source in one State, and thread its way through the mountains and valleys for one half its length before it became navigable and subject to the power of Congress, would it be an interstate stream?"

Mr. Reagan: "That is a question that has already been decided by the courts of the country. The Supreme Court has settled that question, and it is even stronger than the question of my friend from Illinois. They have declared, and the decision has been repeated, that if a commerce originates upon a stream running entirely within a State which ends by emptying into another stream or bay, gulf or sea, and thereby communicates by water with other States or foreign countries, the commerce which passes on from State to State is interstate commerce. The Saginaw River in Michigan, a small stream only forty miles long, is given as an example. All its course is wholly within the State of Michigan, but the commerce passing on it to other States is held to be interstate commerce."

Mr. Harris, of Virginia: "The gentleman says the destination of the commerce shall determine its character. Then let me suppose a case that must inevitably arise. Goods or produce in Ohio destined for Wheeling, West Virginia, are shipped on a road that has no control east of the west bank of the Ohio River, and the company says, 'We will ship this to the west bank of the Ohio River, but we have no power to ship it beyond that'; would that be, under the gentleman's bill, interstate commerce if landed on the Ohio River, simply because directed to Wheeling, on the east bank of the Ohio River?"

Mr. Reagan: "I will read a clause of the bill which answers the gentleman's question. We knew the railroads would make the exact point which my friend from Virginia has made, and

we undertook to settle that for them. The bill provides:

"No break, stoppage, or interruption, or any contract, agreement, or understanding, shall be made to prevent the carriage of any property from being and being treated as one continuous carriage, in the meaning of this act, from the place of shipment to the place of destination, unless such stoppage, interruption, contract, arrangement, or understanding was made in good faith for some practical and necessary purpose, without any intent to avoid or interrupt such continuous carriage, or to evade any of the provisions of this act.

"We take care to provide in advance that the object of the act shall not be defeated by the machinations of the railroads; and if you will give us the bill I will guarantee that that shall not be done."

Mr. Riee: "I desire to ask the gentleman a question right there. Does he contend that, under that section he has read, Congress can force the New York Central Road—I speak of that road merely in illustration—to make any rates beyond its terminus or to do anything else than take the freight that comes to it at Buffalo and carry it to its destination? Can the power of Congress be exerted over that State corporation to compel it to make contracts and rates beyond the State?"

Mr. Reagan: "What I propose to say to the gentleman from Massachusetts is, that this bill nowhere fixes any rates. It expressly avoids making any rates. But it takes the protection of the commerce between the States into its control, and out of the monopoly powers of the corporations; it prevents charging one man more than another man; it prevents rebate and drawbacks; it prevents pooling of freights, and prevents unjust discriminations between place and place. And the gentleman, before he debates this question intelligently, must separate his idea of regulating freights from the consideration of this bill.

"I know, sir, in all preceding discussions here in this House, in our committee, and in the committee of the Senate, the lawyers and managers of railroads have attempted to confuse this subject by saying that members of Congress, by their vocation, were not qualified to regulate railroad traffic. I have answered that before as I answer it to-day. They have said that none can do it but experts. God deliver this country if its interests are placed in the hands of railroad experts, in the interest of railroad companies, under the dictation of railroad officers! Sir, we have done better than that. We ask no aid of a railroad expert. We ask but honest consciences and common-sense to solve these propositions. What expert is necessary to say that the gentleman from Massachusetts shall not pay two dollars a ton for his freight while the gentleman from Illinois pays only one dollar a ton for the same sort of freight over the same ground? What expert is necessary? Common justice, common right, common necessity settles that question, and settles with equal conclusiveness the question against rebates and drawbacks, against

the pooling of freights, and against the destroying of one city or town or business for the benefit of another."

Subsequently, on March 1st, the House refused further to consider the bill.

In the Senate, on February 2d, the following resolution relative to counting the electoral votes for President and Vice-President of the United States was taken up and considered:

Resolved, That the Senate will be ready to receive the House of Representatives in the Senate-Chamber on Wednesday, February 9th, at twelve o'clock meridian, for the purpose of being present at the opening and counting of the votes for President and Vice-President of the United States; that two persons be appointed tellers on the part of the Senate to make a list of the votes for President and Vice-President of the United States as they shall be declared; that the result shall be delivered to the President of the Senate, who shall announce the state of the vote, which shall be entered on the journals, and, if it shall appear that a choice hath been made agreeably to the Constitution, such entry on the journals shall be deemed a sufficient declaration thereof.

The pending question being on the amendment reported by the select committee to take into consideration the state of the law respecting the ascertaining and declaration of the result of the election for President and Vice-President of the United States, to strike out all after the word "resolved" and insert:

1. That the two Houses of Congress shall assemble in the hall of the House of Representatives on Wednesday, the 9th of February, 1881, at twelve o'clock *m.*, and the President of the Senate shall be the presiding officer; that one person be appointed a teller on the part of the Senate and two on the part of the House of Representatives to make a list of the votes as they shall be declared; that the result shall be delivered to the President of the Senate, who shall announce the state of the vote and the persons elected to the two Houses assembled as aforesaid, which shall be deemed a declaration of the persons elected President and Vice-President of the United States; and, together with a list of votes, be entered on the journal of the two Houses.

2. That if it shall appear that any votes of electors for President or Vice-President of the United States have been given on a day other than that fixed for casting such votes by act of Congress, in pursuance of the Constitution of the United States; if the counting or omitting to count such votes shall not essentially change the result of the election, they shall be reported by the President of the Senate in the following manner: Were the votes of electors cast on the — day of —, 1880, to be counted, the result would be for A B for President of the United States — votes, and for C D for President of the United States — votes; if not counted, the result would be for A B for President of the United States — votes, and for C D for President of the United States — votes; but in either event — is elected President of the United States. And in the same manner for Vice-President.

Mr. Morgan, of Alabama: "I desire to insert after the word 'resolved' and before the figure 1 in the amendment the words 'by the Senate, the House of Representatives concurring.' The substance of the resolution is a concurrent resolution."

Mr. Edmunds, of Vermont: "That is necessary."

The Vice-President: "The Chair hears no objection, and that modification will be made."

Mr. Morgan: "I also move to strike out the words 'one person,' where it reads 'that one person be appointed a teller on the part of the Senate,' and to insert 'two persons,' and changing 'a teller' to 'tellers,' so as to make it read 'that two persons be appointed tellers on the part of the Senate'; so that the Houses shall be equally represented."

Mr. Edmunds: "That is right."

The Vice-President: "Is there objection to this amendment? The Chair hears none, and it is agreed to."

Mr. Morgan: "Mr. President, it is just one week from to-day until the Constitution and the law will require that the two Houses of Congress shall assemble at some place for the purpose of counting the vote of electors for President and Vice-President. In May last the Senate sent to the House of Representatives a rule upon this subject, which the House, so far as we are advised, has failed to take action upon. The time is drawing so short for the preparation which is necessary for this very important constitutional event that I suppose, in fact, I know, that Senators on both sides of the Chamber consider that it is time that we should take some measures for the purpose of bringing the two Houses together, so that the votes of the electors may be counted."

"The committee, I will say the majority of the committee, have concurred with the Senator from Kansas [Mr. Ingalls], who offered the resolution for which the committee offers a substitute, in the opinion that it is now necessary for us to go back to some of the old precedents of the fathers in order that we may get together in due form with as little of irritation and as little of debate as possible for the purpose of performing this important duty."

"The Senate is aware of the fact, morally convinced of it, that some difficulty exists in reference to the electoral votes from at least one State; and while this matter has not been revealed to us, can not be revealed to us in any authentic form till the opening of the certificates that have been sent to the Vice-President, still we know so well the existence of the fact that the State of Georgia did not cast her vote on the same day that the other States of the Union cast their votes, that it becomes an important matter that some step should be now taken to prevent controversy, when the two Houses have met together, over that vote. Fortunately for the country, that appears to be the only irregularity, the only difficulty, that is presented in respect of any of the votes of the electors from any of the States."

"I think the country is to be congratulated that, after we have had so many difficulties in the past, we at last have an election where there appears to be but one question which can give rise to controversy or difference of opinion in the counting of the votes of electors."

For my part, so far as I am advised, I am ready to admit, upon all the facts that have been made public, upon that sort of history which is recognized by all men in this country, that Mr. Garfield and Mr. Arthur have been elected President and Vice-President of the United States; that the people of the United States in the respective States have chosen electors who have cast the electoral vote in such a way that they have received each of them a majority of all the votes for the offices for which they have been respectively chosen. I would not put the slightest embarrassment in the way of a peaceful, regular, and orderly count of that vote, and the transmission of our highest office from the hands of the gentleman who now holds it to the hands of his successor; and I believe that in the expression of this sentiment I shall receive the cordial accord on the part of Senators on both sides of this Chamber."

"The question in reference to the State of Georgia is one of such serious importance, considered in reference to itself alone, considered in reference to the nature of the question, as that it might require properly long and careful deliberation for this body and the other House to come to a conclusion as to what was the true constitutional rule to be adopted. There are very grave differences of opinion on this question, because the question itself is one of great gravity and one of great importance. It seems to me impossible at this time, in the brief period which must intervene between this and the counting of the electoral votes, that we should arrive at a constitutional settlement of that question. Indeed, the tribunal which is to make a constitutional determination of that question is itself a matter of serious disputation, and has been for a great number of years. The manner of arriving at a solution of it, whether by an independent expression in each House, or by a concurrent resolution, or by a joint resolution, or by a law, is also a matter of serious disputation, and has been for a great many years."

"It was, therefore, thought better by the majority of the committee—and I dare say that in this also there is perhaps a concurrence even of the minority—that a precedent which had been acted upon in one form or another during three controversies of this kind should be adopted. It being certain, as we understand, that Mr. Garfield is elected President of the United States, without reference to the question whether the vote of Georgia is counted or not counted, it seems to be the duty of the two Houses now to arrive at, to ascertain, to declare, and to enforce the result in which the country will find its peace, and I hope and trust its satisfaction. We, therefore, have thought that it was not inappropriate, that it was not a transgression of the traditions of this country, that indeed it was the best thing to do under the circumstances, to adopt that rule which was adopted in 1837, and which is substantially adopted in this resolution, with the ex-

ception that the name of a State is not included in the resolution; but the fact that some State may have voted, or perhaps has voted, on a day not that fixed by laws of Congress and the Constitution of the United States, is stated in the resolution, and the resolution is predicated upon the assumption that such a fact exists, and, if it is found to exist, an order is arranged to be taken in that event by which that vote can be disposed of without producing any friction in the two Houses when they are assembled. I beg leave to say that in the case of the vote of Wisconsin, in 1857, when such preparation was not made, though the fact was known and should have been anticipated, the omission of this preparation to make provision for the event led to such things in the joint meeting of the two Houses, and afterward in each House, and to such disputation and such discontent on the part of members of the House of Representatives and the Senate as to the settlement of that question, and as to whether it was settled or not settled, as it would be desirable to avoid. In view of what then occurred, it seems to me it is the part of patriotism and prudence that we shall now take some steps for the purpose of anticipating and avoiding that danger."

Mr. Edmunds: "Mr. President, I have listened with great pleasure to the observations of the Senator from Alabama, who has stated that a constitutional election, as we understand it, of a President and Vice-President of the United States has been achieved, and that the persons elected are the persons whom he has named, so that all that is left is really a ceremonial, because the Constitution says that the votes, being opened, shall be counted, and that the person who has the majority, being a majority of all the electors appointed, shall be the President of the United States. That makes the Constitution the same as if it had said, shall be the President of the United States, whatever anybody may say to the contrary, be that body the President of the Senate, the Senate, the House of Representatives, or any two or all three of those bodies together. I think, myself, that is the Constitution, and that the Constitution never intended to leave it, and never has left it, by force of the Constitution alone, to any one or all of these three authorities to determine who has been elected by the *States*—and I emphasize that word as a State-rights man—to be the Chief Executive of the nation for the period mentioned in the Constitution.

"I have no disposition to discuss or criticise the second part of the amendment recommended by the committee, in respect of, as it is understood, the State of Georgia, rejecting, as I do, and denouncing—not in the sense of personal hostility, but in its broader sense—all implications that any amount of casuistry might draw out of the way in which this amendment is stated, either in its first or in its second part, as to an assumption of power on

the part of anybody under the existing state of the law to decide in the sense of a finality, or in the sense of any legal effect, whether the vote of the State of Georgia ought to be counted or not.

"So saying—and saying this, I think, for all Senators who agree with me in these general principles, and I believe everybody does—I am willing for one to acquiesce in this method of not disposing of or deciding upon the question, or rather in this method of not disposing or deciding upon any question whatever. In this state of certainty, as we suppose, it is not necessary that we should go into the question of whether you as the President of the Senate, or whether the two Houses together or separately, or all three, can determine any question arising out of an event like this.

"With this disclaimer and denunciation of the implications which, as I said before, casuistry might possibly raise out of the language of this amendment, I am willing to have the ceremony proceed; but I submit to the chairman of the committee and to the Senate that the words 'hall of the House of Representatives' ought to be stricken out, and the words 'Senate-chamber' inserted in their place, and I make that motion.

"I make it not because I suppose or suspect that there is the slightest practical consequence on this occasion in such a change; but precedent does make history and does make law in a certain sense, and the time may come (as it has on one occasion already come) when the carrying of these archives, the voice of thirty-eight sovereign States, an eighth of a mile through such a great crowd of people whom you do not know, in a time of high excitement, to the other end of this Capitol building, would be a matter of danger and exposure; and when you look to the theory of the Constitution—I am not talking about the mere legal propriety of going over to the House of Representatives; I do not for the present deny it or assert it; but I am talking about the wise thing and the wise spirit of the Constitution that says these votes shall be sent to the President of the Senate. They are sent to him as an officer. The person of the President of the Senate may change from day to day, as we all know, including the President *pro tempore* who is the President of the Senate for the time being. They are sent, therefore, to this body, in the person of its presiding officer. I do not mean by that to say that the body has any control over them; but I use that phrase in order to show that they come to the head of this body in his official character.

"The Constitution itself says that on the day appointed by law, he, having in charge the sacred records, shall open them in the presence of the two Houses, that then the votes shall be counted, and so on. I submit, therefore, earnestly to my honored friend, the chairman of this committee, and to all other Senators, that the true and only wise place—I am not now

talking about the mere technical law—for performing this great function is the place where the President of the Senate officially and rightfully always is.

"The only argument that was ever suggested against that has been simply the argument of physical convenience; that, as the chambers of the Capitol used to be (after the earlier days when it was done here), the hall of the House of Representatives being larger, it was physically more convenient to have it done there, and so it was for a great many years. But the hall of the Senate is now large enough to leave no physical obstacle to the convenient dispatch of that business here; and, therefore, I claim and I urge upon Senators the propriety of causing this great act to be done in the place where on every theory and upon every principle of security and wise procedure it ought to be done. If at some future day there should arise a disturbance and a trouble, and the President of the Senate and the tellers appointed by the Senate, if there should be any, on such an occasion, moving this eighth of a mile into the other House, should be despoiled of these documents, it would be a very serious thing. If on some such occasion also it should happen that a disagreement, a disturbance, a tumult should arise in the hall of the House of Representatives, as there has been—not a very serious one, but as there has been on the occasions of the counting of votes in a case like this, where there was no doubt in any man's mind as to what the result was, producing a scene of tumult and confusion where nothing could be done except for the President of the Senate to say without taking the opinion of the Senate about it at all that the Senate would now withdraw and march out—that would be very inconvenient.

"If any such scene should occur hereafter, as I pray there never will, if anybody is to withdraw—I am not now trying to impress anybody with my ideas about the power—let the withdrawal take place so as to leave the President of the Senate and these public documents in the place where they belong; do not require the person whom the Constitution says, as such person, shall open these votes, to move an eighth of a mile, or any other distance from his proper place, in order that whatever may constitutionally be done on that occasion, or succeeding it, may go on.

"I appeal to Senators, therefore, to vote for this amendment which I offer, to make this place, now when there is no question, the place for the opening and the counting of these votes. As I said before, the only argument that was ever made for another place, that of mere physical convenience, has no weight, inasmuch as this chamber is large enough for every member of the Senate, and every member of the other House, to be comfortably accommodated."

Mr. Thurman, of Ohio: "Mr. President, for

seventy-odd years, if my memory is not at fault, the votes of the electors of President and Vice-President have been counted in the hall of the House of Representatives; and on no occasion has any Senator, either going to or returning from that hall, been in any way molested or insulted. I am not for changing a practice sanctioned by such long usage, and especially am I not in favor of introducing a subject about which the two Houses may disagree, when on this day week, only seven days from this time, it will be our duty to attend the counting of these votes. I hope the motion of the Senator from Vermont will be voted down."

Mr. Hill, of Georgia: "I rise now simply to say one or two things in relation to the vote of my own State. I have seen it intimated, and more than intimated, in several quarters, that the failure on the part of the electors of Georgia to cast their vote on the day fixed by the law of Congress arose from a disposition in that State to regard the law of the State on this subject as of higher authority than the law of Congress. I wish to say here that that is not true. There was no intention or idea on the part of anybody in Georgia, in authority or out of authority, to disregard the law of Congress on this subject, or doubt that the law of Congress fixing the day for the vote by the electors was the supreme law. There has never been any law in Georgia in conflict with the law of Congress, or intended to be in conflict with the law of Congress, on that subject.

"Without going into the particular history to explain how it happened (a fact which we all know but do not yet know officially) that the electors of Georgia did vote one week after the day fixed by the law of Congress, I simply say that there was simply a failure to know the fact that the first Wednesday in December, 1880, came before the first Monday in December. The failure to know that simple fact of the almanac caused the whole trouble, and there was no desire or intent on the part of anybody to hold that the State law was supreme over the Federal law on this subject, no desire to disregard the Federal law. Indeed, the whole intent was to comply with the law of Congress and vote on the day that the electors in all the other States voted. It was just one of those accidents that may happen anywhere or at any time."

The Presiding Officer [Mr. Anthony in the chair]: "The question is on the amendment of the Senator from Vermont" [Mr. Edmunds].

The result was announced—yeas 22, nays 36.

So the amendment to the amendment was rejected.

Mr. Eaton, of Connecticut: "I do not intend to discuss the question at any length, but I have a word to say. I can not support a resolution upon this subject which leaves one very important question in doubt, and that is the question whether the President of the Senate has the right to count the votes for Presi-

dent and Vice-President of the United States. There was a resolution of this sort which I supposed would be brought up yesterday:

"[June 15, 1880.—Ordered to be printed.]

"Mr. Morgan submitted the following resolution:

"Resolved by the Senate (the House of Representatives concurring), That the President of the Senate is not invested by the Constitution of the United States with the right to count the votes of electors for President and Vice-President of the United States so as to determine what votes shall be received and counted or what votes shall be rejected.

"I had supposed that the resolution would have been called from the table yesterday and acted upon, and, if that resolution had been called up and acted upon affirmatively, I should cheerfully give my vote for the other resolution of the committee, because I should have considered the action of the Senate upon that resolution a determination of their meaning of the resolution which is now before the Senate. But that has not been called up, it has not been acted on. The pending resolution reads in this way:

"Resolved by the Senate (the House of Representatives concurring), That the two Houses of Congress shall assemble in the hall of the House of Representatives on Wednesday, the 9th of February, 1881, at 12 o'clock, m., and the President of the Senate shall be the presiding officer; that two persons be appointed tellers on the part of the Senate and two on the part of the House of Representatives, to make a list of the votes as they shall be declared.

"What does that mean? The honorable Senator from Alabama says that the word 'declared' there is simply the declaration of a clerical fact; another Senator says that the word 'declared' there means that A B, C D, and E F are elected or appointed as electors for President and Vice-President. I can not vote for a resolution that leaves any doubt upon the subject, and, therefore, at the proper time—and if this be the proper time in the opinion of the Chair—I shall offer an amendment now, in the words of the Constitution of the United States. I move to strike out the words 'as they shall be declared,' and to insert in lieu thereof 'as the certificates shall be opened by the President of the Senate.' Those are the words of the Constitution, about which there can be no mistake, about which there can be no two opinions. That is the duty of the President of the Senate; and when he has executed that duty then the officers who have been appointed by the Senate and the House will count the votes and hand up their list to the President of the Senate, and he will make the necessary declaration.

"I can not vote for any resolution that leaves any doubt upon that great and important point. It is of no importance, I agree, so far as this election is concerned. Everybody concedes the election of General Garfield and General Arthur. Everybody concedes that they will on Wednesday, the 9th day of February, in some way be declared to be the choice of the people. I regret it, but it is so. But I can not vote that the President of the Sen-

ate shall declare that fact, for it is not his duty."

The Presiding Officer: "The amendment will be reported."

The Chief Clerk: "In the amendment of the committee, it is proposed to strike out the words 'as they shall be declared' and to insert 'as the certificates shall be opened by the President of the Senate'; so as to read:

"That two persons be appointed tellers on the part of the Senate, and two on the part of the House of Representatives, to make a list of the votes as the certificates shall be opened by the President of the Senate."

Mr. Thurman: "It has been truly said by Senators on this floor, and we know it is so, that we are tiding over the present case; that is, we do not decide it. We do not decide really who, under the Constitution, has the judicial power. Are we to blame for that? Our forefathers, eighty years ago, tried to decide it, and they could not. John Marshall drew a bill, when he was a member of the House of Representatives, and it passed that House, I think, but the Senate did not agree to it. The greatest minds in this country have tried it, and it is no disgrace to us that we have not been able to agree upon a measure when John Marshall and his associates in his day were unable to pass a bill. Mr. Van Buren tried it, when he was a member of the Senate, and failed. I hoped that it might happen in my time, not that I might do much about it, but that I might have the satisfaction of voting for it, and that we might agree upon some proper law on the subject. I hope yet it may happen that such a law may be perfected by those who are to come after me, and that, too, before another presidential election shall occur. But 'sufficient unto the day is the evil thereof.' Your committee have reported a resolution that every man in this body and every man in the House can fairly vote for, as our forefathers voted for similar resolutions for more than half a century, and under which we have got along quietly in the count of the presidential votes.

"Although I agree with my friend from Connecticut that, if I were framing this resolution for the first time, I would leave these words out, I hope the amendment will not be adopted, but that the resolution as reported by the committee will be agreed to, and that without any further modification."

Mr. Blaine, of Maine: "Mr. President, I do not intend to detain the Senate by any discussion of the amendment of the Senator from Connecticut, but I wish to submit an observation on what the Senator from Ohio has said about the impossibility of getting a law on this subject. He says that seventy or eighty years ago John Marshall tried to correct a trouble then existing and failed; that there is in some way an inherited disability upon the Congress and people of the United States to escape in any way from the danger which we now quadrennially encounter."

Mr. Thurman: "I said nothing of the kind."

Mr. Blaine: "I understood the Senator to say that as John Marshall had failed in doing it, and Martin Van Buren had failed in doing it, it seemed to be something we ought not to take any reproach to ourselves for not doing."

Mr. Thurman: "If the Senator will allow me to interrupt him, I said that what they failed to accomplish, it was no disgrace to us that we can not. I did not say, however, that it would not be accomplished."

Mr. Blaine: "I do not know of any disgrace that was said to attach to it."

Mr. Thurman: "If the Senator from Maine should remain in the Senate—and I am sorry he is going out of it—I have no doubt he would accomplish it before another presidential election."

Mr. Blaine: "I believe he would if he could get the votes of the Senators to go with him. I believe that any good, square, sensible man, and I do not profess to be anything else, could correct this if you could get the two parties to forego partisan advantage. But the trouble is, that the moment the Democratic party got into possession of both branches of Congress at the middle period of the last four years, they did not want to touch the question. I do not, in this debate, attribute to the Democratic party anything more than I would attribute to any other party; but it somehow has fallen out in the history and development of this country that whereas the founders of the Constitution intended that Congress should have nothing whatever to do with controlling the election of President and Vice-President, they now have everything to do with it, and it has now fallen out that when a party, whether it be the Republican or the Democratic party, controls both branches of Congress, and decide on a question of doubtful electoral votes, they are apt to decide for their own candidate."

Mr. McDonald, of Indiana: "On their own side?"

Mr. Blaine: "Yes, whether it is a Democratic or a Republican Congress. In my judgment, if the elections of 1878 had given a Republican House of Representatives, and we had had a Democratic Senate, we would have secured a law on this subject. If that is any reproach to either party, it is equally divided, and I am perfectly impartial in the distribution of blame."

"If we are to believe the earnest speeches made here in 1876, we were then right on the crater of the volcano, right where the yawning gulf of chaos and dissolution confronted us, and we escaped it by a make-shift, and a pretty rickety one it was. The Senator from Connecticut [Mr. Eaton] bows assent to that statement. He and I walked out of this chamber together on that pleasant winter morning when the bill for the Electoral Commission passed, having both voted against it. Whether it was an evil or a good it is not worth while now to discuss. If an evil, we are in the negative on

that vote, on the right side of the record. No matter, it was a make-shift; it was purely and entirely a make-shift. It settled nothing, and unsettled everything, and in the most important crisis that can confront any people, or any government—the law of succession—the people of the United States are to-day without law. There is no rule by which this system is settled. The chairman of the Judiciary Committee tells us it looks to him like an impossibility that we can get a law on this subject."

"I do not know what may possibly be the political complexion of Congress for the next four years. We are going to start out with a Republican House, but if anybody can tell me what the Senate will be after the 4th of March he is a wiser man than I am. However, I hope there will be at least that sort of divided power which will not give the assurance to either political party that they will have the undisputed sway in 1884, or in any subsequent year, over the electoral votes, and that the patriotism of both parties will come to see that taxation and tariff and funding bill and public debt are all of a subordinate character compared with this great question, which may involve a civil revolution at any moment. Fortunately, the present election was conclusively settled in the electoral college, but I ask, without intending the slightest offense, what chance would General Garfield have to be inaugurated on the 4th of March if there was a doubtful electoral vote that came up here, which counted one way would elect Hancock, and counted the other way would elect Garfield?"

Mr. Farley, of California: "Has the Senator come to that conclusion from the action of the Republicans in 1876?"

Mr. Blaine: "I have come to that conclusion from things I have seen here, and from the common frailties and common instincts of human nature. I have come to the conclusion that if this were a Republican Congress they would decide for their candidate, and being a Democratic Congress they would decide for their candidate. I am imputing nothing to the Democratic party that I do not also impute to the Republican party. I will not impute anything to either of them not inherent in the weakness of human nature. With that crisis staring us in the face, quadrennially returning here, and with that wonderful inclination or destiny which divides people about half and half on any given issue, the question remains undetermined. You can assemble the people by blowing a horn on the east front of the Capitol and state any issue to them, and ten to one they will divide about equally upon it. Of the thirty-eight States in this Union nineteen voted for Hancock and nineteen for Garfield. The nineteen for Garfield had a few more electoral votes than the nineteen for Hancock."

Mr. Eaton: "And the other nineteen had a few more thousand votes."

Mr. Blaine: "Upon that subject I will not enter. The popular vote, I believe, as shown

on the record, after depriving three or four hundred thousand American citizens of their dear right of suffrage, gave three or four thousand popular majority for Hancock. Another count gives three or four thousand for Garfield; but I am not bringing that into discussion. The popular vote was very nearly equally divided; and to-day, whether there be nine or ten million voters in this country, speaking in rough and equal phrase, they are about one half Democratic and one half Republican, as the States are about the same, and they will in all probability remain about the same. This even division seems to be the natural outgrowth of republican institutions based on free discussion, and seems as clearly predestined almost as that the world should be peopled one half of one sex and one half of the other. It so comes; and we are not escaping this contingency except for four years. No man knows what four years, or one year, may bring forth in the tides of political fortune.

"Therefore, I say it is the first duty of common patriotism that both parties should devote themselves to a constitutional, comprehensive remedy, and not have us present the spectacle every four years of going through some extraordinary contrivance by which we shall prevent anarchy from engulfing the country. I think the severest strain to which this country was ever subjected outside the war of the rebellion was the incidents connected with the settlement of the presidency in 1876, and I doubt whether, if the term had been for a period of ten years, this country could have found an entirely peaceful solution. I say that for the benefit of the gentlemen who think we ought to have a longer presidential term. If that had been for a ten-years' settlement of the presidency, I do not believe we could have had as peaceful an adjustment as we happily reached. We got the advantage of a short term of four years, giving a period in the near future in which the case might be tried over again before the high court of the people. The shorter the term the more content the people are to submit. That is why the States that have had annual elections have had the most peaceful administrations in this country, and why they have had the most peaceful political contests. I believe the honorable Senator from Connecticut and myself will both live to see, with regret, that the New England States are giving up their old system of annual elections, and resorting to the biennial period. I believe the annual election of Governor and Legislature in these States has conducted very largely to the peacefulness and harmony and success of their administrations, as well as to the general readiness and heartiness of submission to the result by the defeated party. If beaten this year, in only twelve months you can try it again, and with one or two notable exceptions there has been very little excitement or disorder consequent upon the result.

"I am very sure, at all events, that there has

been less of unhealthy and dangerous excitement in States that have had annual elections than in any other States in the Union, and I believe that, just in proportion as you elongate and lengthen the term of service of the President of the United States, just in the same proportion will there be extraordinary agitation attendant upon it. If it were a two-years' term, elected as the House of Representatives is, hearing the imprint, as the Executive ought, of the popular branch of Congress, there would be less excitement than there is now. Make the term six, eight, or ten years, and you increase the excitement exactly in the same ratio. Now we have a four-years' term. It is not likely to be changed, certainly not within the life-time of this generation; but four years to men who have reached forty and fifty and sixty years comes around very rapidly; it comes around rapidly to all. It will be here very soon again, and it will be a reproach to that side of the chamber and to this, to the Senator from Ohio and to myself, and to all of us, if there be not something done to relieve the country from the apprehension of what occurred in 1876, and what may occur again if no wise forecast be taken to prevent it."

The Presiding Officer: "The question is on the amendment offered by the Senator from Connecticut [Mr. Eaton] to the amendment of the committee."

The roll-call having been concluded, the result was announced—yeas 27, nays 33.

So the amendment to the amendment was rejected.

The amendment, as amended, was agreed to.

The Presiding Officer: "The question is on the resolution."

The resolution was agreed to.

In the House, on February 5th, the joint resolution was considered and adopted.

COUNTING THE ELECTORAL VOTE.

At twelve o'clock M., February 9th, the Door-keeper announced the Senate of the United States.

The Senate entered the hall, preceded by its Sergeant-at-Arms and headed by the Vice-President and the Secretary of the Senate, the members and officers of the House rising to receive them.

The Vice-President took his seat as presiding officer of the joint convention of the two Houses, the Speaker occupying the chair on the left of the Vice-President.

The Vice-President: "The two Houses have assembled in pursuance of the Constitution that the votes may be counted and declared for President and Vice-President of the United States for the term of four years from the 4th day of March, 1881. It becomes my duty under the Constitution, as the President of the Senate, to open the certificates of election of the several States of the nation, in the presence of the two Houses, and I now proceed to dis-

charge that duty. The tellers appointed on the part of the Senate and the House will please take their seats."

Senators Hamlin and Thurman, the tellers appointed on the part of the Senate, and Mr. House and Mr. Crowley, the tellers appointed on the part of the House, took their seats at the Clerk's desk, at which the Secretary of the Senate and the Clerk of the House also occupied seats.

The Vice-President: "I open the package purporting to contain the certificates of election of the State of Alabama, and hand those certificates to the tellers to be reported."

Senator Hamlin (one of the tellers) read in full the certificate of the vote of the State of Alabama, giving 10 votes for Winfield S. Hancock, of the State of Pennsylvania, for President of the United States, and 10 votes for William H. English, of the State of Indiana, for Vice-President of the United States.

Mr. House (one of the tellers) then read at length the certificate of the vote of the State of Arkansas, and announced the electoral vote of that State for President and Vice-President.

Senator Thurman (one of the tellers) then read the certificate of the vote of the State of California, and announced the electoral vote of that State for President and Vice-President.

Mr. Reagan, of Texas: "Mr. President, I suggest that, by unanimous consent of the joint convention, the reading of the formal parts of the certificates be omitted."

The Vice-President: "That may be done by unanimous consent, and was the course pursued at the counting in 1857. Is there objection to the course suggested by the gentleman from Texas?" [After a pause.] "The Chair hears none, and that course will be pursued."

Mr. Edmunds, of Vermont: "I would suggest, in view of the unanimous consent that has been given, that the tellers might examine the certificates as to their formalities, and the Chair could pass down in advance one of the certificates in order that it might be examined by the tellers, while one of the tellers is announcing the vote of the State preceding."

The Vice-President: "The Chair will adopt the suggestion."

The tellers then proceeded to announce the electoral votes of the States of Colorado, Connecticut, Delaware, and Florida.

The Vice-President: "The Chair now hands to the tellers the certificate of election of the State of Georgia."

Mr. Springer, of Illinois: "I call for the reading of that certificate in full."

The Vice-President: "The certificate will be read at length."

Mr. Crowley (one of the tellers) then proceeded to read in full the certificate of the vote of the State of Georgia, but, before concluding, Mr. Springer said, "Mr. President, I withdraw my demand for the reading in full of the certificate of the State of Georgia."

The Vice-President: "The further reading

will be omitted, and the result of the vote will be announced."

Mr. Crowley (one of the tellers) then announced the result of the vote of the State of Georgia, for President and Vice-President of the United States.

The Vice-President: "It appearing from the certificates just read that the votes of the State of Georgia were cast on a day other than that fixed by act of Congress in pursuance of the Constitution of the United States, the result of those certificates will not be recorded until, in the language of the concurrent resolution under which the count proceeds, 'it shall appear whether the counting or omitting to count such votes will essentially change the result of the election.' When that fact shall appear, the record will be made agreeably to the provisions of the concurrent resolution."

The certificates of the remaining States were then opened, and the votes announced as they appear in the following statement submitted by the tellers:

Number of electoral votes to which each State is entitled.	STATES.	FOR PRESIDENT.		FOR VICE-PRESIDENT.	
		The vote of Georgia, cast on the 8th of December, second Wednesday of the month, if counted.		The vote of Georgia, cast on the 8th of December, second Wednesday of the month, if counted.	
		James A. Garfield, of Ohio.	Winfield S. Hancock, of Pennsylvania.	Chester A. Arthur, of New York.	William H. English, of Indiana.
10	Alabama .....	..	10	..	10
6	Arkansas .....	..	6	..	6
6	California	1	5	1	5
3	Colorado	3	..	3	..
6	Connecticut	6	..	6	..
3	Delaware .....	..	3	..	3
4	Florida .....	..	4	..	4
11	Georgia .....	..	11	..	11
21	Illinois	21	..	21	..
15	Indiana	15	..	15	..
11	Iowa	11	..	11	..
5	Kansas	5	..	5	..
12	Kentucky .....	..	12	..	12
8	Louisiana .....	..	8	..	8
7	Maine	7	..	7	..
8	Maryland .....	..	8	..	8
13	Massachusetts	13	..	13	..
11	Michigan	11	..	11	..
5	Minnesota	5	..	5	..
8	Mississippi .....	..	8	..	8
15	Missouri .....	..	15	..	15
3	Nebraska	3	..	3	..
3	Nevada .....	..	3	..	3
5	New Hampshire	5	..	5	..
9	New Jersey .....	..	9	..	9
35	New York	35	..	35	..
10	North Carolina .....	..	10	..	10
22	Ohio	22	..	22	..
3	Oregon	3	..	3	..
29	Pennsylvania	29	..	29	..
4	Rhode Island	4	..	4	..
7	South Carolina .....	..	7	..	7
12	Tennessee .....	..	12	..	12
8	Texas .....	..	8	..	8
5	Vermont	5	..	5	..
11	Virginia .....	..	11	..	11
5	West Virginia .....	..	5	..	5
10	Wisconsin	10	..	10	..
369	Total	214	155	214	155

When the votes of all the States had been severally announced, Senator Thurman (one of the tellers) said: "The tellers report that the whole number of the electors appointed to vote for President of the United States is 369, of which a majority is 185. Were the votes of electors for the State of Georgia, cast on the second Wednesday of December, 1880, being the 8th day of said month, to be counted, the result would be: for James A. Garfield, of the State of Ohio, for President of the United States, 214 votes; and for Winfield S. Hancock, of the State of Pennsylvania, for President of the United States, 155 votes. If not counted, the result would be: for James A. Garfield, for President of the United States, 214 votes; and for Winfield S. Hancock, for President of the United States, 144 votes. In either event James A. Garfield has received a majority of the votes of the whole number of electors appointed."

"And the state of the vote for Vice-President of the United States is as follows: the whole number of the electors appointed to vote for Vice-President of the United States is 369, of which a majority is 185. Were the votes of electors for the State of Georgia, cast on the second Wednesday of December, 1880, being the 8th day of said month, to be counted, the result would be: for Chester A. Arthur, of the State of New York, for Vice-President of the United States, 214 votes; and for William H. English, of the State of Indiana, for Vice-President of the United States, 155 votes. If not counted, the result would be: for Chester A. Arthur, for Vice-President of the United States, 214 votes; and for William H. English, for Vice-President of the United States, 144 votes. In either event Chester A. Arthur has received a majority of the votes of the whole number of electors appointed."

The Vice-President: "Wherefore, I do declare that James A. Garfield, of the State of Ohio, having received a majority of the votes of the whole number of electors appointed, is duly elected President of the United States for four years commencing on the 4th day of March, 1881."

"And I do further declare that Chester A. Arthur, of the State of New York, having received a majority of the votes of the whole number of electors appointed, is duly elected Vice-President of the United States for four years commencing on the 4th day of March, 1881." [Loud applause on the floor and in the galleries.]

"The business for which the joint convention of the two Houses assembled having been completed, the Senate will return to its chamber."

The Senate accordingly retired from the hall.

In the House, on January 5th, a bill for the apportionment of Representatives was reported.

Mr. Springer, of Illinois: "Before the ques-

tion of reference is put, I wish to make some remarks with reference to the basis on which the bill has been prepared, and also in regard to the additional provision in reference to the election of members upon what is known as the principle of minority representation.

"I have deducted from the whole population of the United States the population of the Territories and of the District of Columbia, which ought not to be included in an estimate in reference to the number of members of Congress. Taking out the population of those Territories and the District, I find that the population of the States of the Union amounts to 49,369,965. That amount divided by the number 293, the present number of members of the House, gives 168,498 as the ratio of population for one member of this House. Taking the population of each State and dividing it by that ratio will give the number of Representatives to which each State will be entitled upon full ratio, and the fractions over 100,000 which it is proposed shall entitle the States to additional members, will bring the whole number up to the full quota, 293.

"There are two States which have fractions coming very near to 100,000, which States may be the subject of special consideration hereafter. The State of Massachusetts will have a fraction of 98,106, and Florida will have a fraction of 98,068. If Representatives are allowed to those States on account of such fractions, then the State of Florida will have two members, and Massachusetts will have her present number; and in that event the whole number of Representatives will be increased to 295. Otherwise Massachusetts would lose one member. I call attention to the losses and gains of the several States under the proposed bill, as follows:

"The following States, by the bill which I have introduced, lose one member each: Alabama, Florida, Indiana, Illinois, Louisiana, Maine, Massachusetts, Maryland, New Hampshire, Ohio, Vermont, Tennessee.

"Pennsylvania loses two members.

"New York loses three members.

"The following States gain one member each: Arkansas, California, Iowa, Michigan, Mississippi, South Carolina, West Virginia.

"The following States gain two members each: Minnesota, Nebraska.

"The following States gain three members each: Kansas, Texas.

"One word now in reference to the principle of minority representation contained in this bill. It provides for dividing States having more than two members into districts having three members each, as far as possible. Where there shall be a fraction of two members then there will be a district having five members, and where there is a fraction of one member then there will be one district having one member. In each district of three members the voters will be entitled to vote but for two members, thus securing absolutely to the mi-

nority one member. In districts having five members each voter would be entitled to vote for but three members. I state this for the purpose of calling the attention of members of the House to the fact that this bill embodies more than a mere apportionment, and relates to the election of members of this House upon a principle different from the one heretofore adopted. I therefore think the reference of this bill should be properly to the Committee on Elections."

The previous question was seconded, and the main question ordered.

The House divided; and the tellers reported that there were—yeas 94, nays 34; and the bill was referred to the Select Committee on the Census.

Mr. Cox, of New York, subsequently said: "It appears that on the census of 1880, by the increase from 293 to 294, Massachusetts gains 1; by the increase to 295, Louisiana gains 1; by the increase to 296, Pennsylvania gains 1; by the increase to 297, Maryland gains 1; by the increase to 298, New York gains 1; by the increase to 299, Alabama gains 1; and when the number of Representatives is increased to 300, one of the striking features of the table appears. It is a curious eccentricity of mathematics—a paradox. The paradox is that Alabama loses, at 300, the Representative she gained at 299, and Texas and Illinois gain 1 each. At 301, Alabama regains the Representative so lost; by the increase to 302, Florida gains 1; by the increase to 303, Ohio gains 1; by the increase to 304, North Carolina gains 1; by the increase to 305, Tennessee gains 1; by the increase to 306, Pennsylvania gains 1; by the increase to 307, New York gains another, making two gains over 293, under the census of 1880, but still New York even then loses 1 from her present number assigned her under the apportionment of 1870.

"Compared with the present number, under the census of 1870, each member can make his own calculation as to gains and losses. There are losses. There always will be during a lapse of ten years. The largest House we ever had before 1863 was under the census of 1830. Massachusetts then had 20 members; now she has 11. New York then had 40 members; now she will not hold her present number, 33, unless the number of members is 307. Virginia at one time had 23; now she has 9. New Hampshire once had 6; now she has 3. The losses are comparative, and every apportionment has witnessed such reductions. Vermont and New Hampshire may gain in population, but not relatively. They must lose in this apportionment, unless we make the number of members inordinately large. But all this is to be judged on a scrutiny of the tables. How high we must run the number of members so that no State will lose, members can compute for themselves from the data to be printed."

Mr. Cox, by unanimous consent, introduced

a bill (H. R. No. 6958) making an apportionment of Representatives in Congress among the several States under the tenth census; which was read a first and second time, referred to the Joint Select Committee on the census, and ordered to be printed.

The bill is as follows:

An act making an apportionment of Representatives in Congress among the several States under the tenth census.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, After the 3d of March, 1883, the House of Representatives shall be composed of three hundred and one members, to be apportioned among the several States as follows:

Alabama, 8; Arkansas, 5; California, 5; Colorado, 1; Connecticut, 4; Delaware, 1; Florida, 1; Georgia, 9; Illinois, 19; Indiana, 12; Iowa, 10; Kansas, 6; Kentucky, 10; Louisiana, 6; Maine, 4; Maryland, 6; Massachusetts, 11; Michigan, 10; Minnesota, 5; Mississippi, 7; Missouri, 13; Nebraska, 3; Nevada, 1; New Hampshire, 2; New Jersey, 7; New York, 31; North Carolina, 8; Ohio, 19; Oregon, 1; Pennsylvania, 26; Rhode Island, 2; South Carolina, 6; Tennessee, 9; Texas, 10; Vermont, 2; Virginia, 9; West Virginia, 4; Wisconsin, 8.

SECTION 2. Whenever a new State is admitted to the Union, the Representative or Representatives assigned to it shall be added to the number.

SEC. 3. In each State entitled under this apportionment the number to which such State may be entitled in the Forty-eighth and each subsequent Congress, shall be elected by districts composed of contiguous territory, and containing as nearly as practicable an equal number of inhabitants, and equal in number to the Representatives to which such State may be entitled in Congress, no one district electing more than one Representative.

Subsequently the Committee on the Census made their report.

Mr. Cox: "I am directed by the Committee on the Census to report, as a substitute for House bill No. 6958, a bill (H. R. No. 7026) making an apportionment of Representatives in Congress among the several States under the tenth census. The majority fix the number of members under the tenth census at three hundred and eleven, and the minority, in their amendment, at three hundred and nineteen."

The bill reported by Mr. Cox from the Committee on the Census is as follows:

Be it enacted, etc., That after the 3d of March, 1883, the House of Representatives shall be composed of three hundred and eleven members, to be apportioned among the several States, as follows: Alabama, eight; Arkansas, five; California, five; Colorado, one; Connecticut, four; Delaware, one; Florida, two; Georgia, ten; Illinois, nineteen; Indiana, thirteen; Iowa, ten; Kansas, six; Kentucky, ten; Louisiana, six; Maine, four; Maryland, six; Massachusetts, eleven; Michigan, ten; Minnesota, five; Mississippi, seven; Missouri, fourteen; Nebraska, three; Nevada, one; New Hampshire, two; New Jersey, seven; New York, thirty-two; North Carolina, nine; Ohio, twenty; Oregon, one; Pennsylvania, twenty-seven; Rhode Island, two; South Carolina, six; Tennessee, ten; Texas, ten; Vermont, two; Virginia, ten; West Virginia, four; and Wisconsin, eight.

The accompanying report is as follows:

The Committee on the Census, to whom was referred the question of apportionment among the several States under the tenth census, beg leave to report the following bill, which enacts that after the 3d of March, 1883, the House of Representatives shall be

composed of three hundred and eleven members. For the distribution of said members in detail, the committee refer to the bill. There were differences of opinion among the members of the committee as to the number, some being for more and some for less than the above number, but, to avoid delay, and to bring the matter speedily before the House, the majority of the committee have concluded to report the accompanying bill.

The amendment, in the nature of a substitute reported by Mr. Sherwin on behalf of the minority of the committee, is as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the 3d day of March, 1883, the House of Representatives shall be composed of three hundred and nineteen members, to be apportioned among the several States as follows:

To the State of Alabama, eight members; to the State of Arkansas, five members; to the State of California, six members; to the State of Colorado, one member; to the State of Connecticut, four members; to the State of Delaware, one member; to the State of Florida, two members; to the State of Georgia, ten members; to the State of Illinois, twenty members; to the State of Indiana, thirteen members; to the State of Iowa, eleven members; to the State of Kansas, six members; to the State of Kentucky, eleven members; to the State of Louisiana, six members; to the State of Maine, four members; to the State of Maryland, six members; to the State of Massachusetts, twelve members; to the State of Michigan, eleven members; to the State of Minnesota, five members; to the State of Mississippi, seven members; to the State of Missouri, fourteen members; to the State of Nebraska, three members; to the State of Nevada, one member; to the State of New Hampshire, two members; to the State of New Jersey, seven members; to the State of New York, thirty-three members; to the State of North Carolina, nine members; to the State of Ohio, twenty-one members; to the State of Oregon, one member; to the State of Pennsylvania, twenty-eight members; to the State of Rhode Island, two members; to the State of South Carolina, six members; to the State of Tennessee, ten members; to the State of Texas, ten members; to the State of Vermont, two members; to the State of Virginia, ten members; to the State of West Virginia, four members; to the State of Wisconsin, eight members.

SECTION 2. Whenever a new State shall be admitted into the Union, the Representative or Representatives assigned to it shall be additional to the number, three hundred and nineteen, herein provided for.

SEC. 3. In each State entitled under this apportionment, the number to which such State may be entitled in the Forty-eighth and each subsequent Congress shall be elected by districts composed of contiguous territory, and containing as nearly as practicable an equal number of inhabitants, and equal in number to the Representatives to which such State may be entitled in Congress, no one district electing more than one Representative.

In the House, on February 3d, an amendment was proposed, making the number of members three hundred and seven.

Mr. Sherwin, of Illinois: "There is another question, Mr. Speaker, connected with this important matter of representative government. That is, that not only is it made the duty of Congress to adopt a representative system adequate to the needs of the country and distributed properly among the people of the country, but that they shall also see that every man who by law has a right to vote for the members so provided for shall be free to vote and

exercise all the privileges which the law gives him without restraint or molestation; otherwise our enactments here are futile and our laws are vain.

"Some gentlemen have said that this apportionment is easy to be made because it is a mere question of arithmetic. Now, it is more than a question of arithmetic. It is a redistribution of political power. To be sure, this distribution is made upon arithmetical principles. But it is not a question of arithmetic only.

"The change of a divisor from three hundred and one to three hundred and eleven or three hundred and nineteen may change the political status of this House. It may change the political organization of the electoral college, and therefore it does assume a political aspect. But, looking at the facts as they exist to-day, as sensible men, we know we can not get rid of it, because it is a political question, a redistribution of power that will not affect this Congress, but that will affect five Congresses hereafter to be elected, that will extend for five Congresses to come, and that shall not only affect them but shall affect the next two presidential elections. Not only that, but it will affect the legislation in those next five Congresses. It will affect your tariff laws or legislation. It will affect your legislation on the monetary matters of this country. It will affect your legislation upon education. It will affect your legislation upon all great questions that divide the parties of this country. These questions are only reached through parties; and as they are reached through parties this apportionment is of necessity a party question, and assumes a political aspect from its very nature and object.

"There have been three bills introduced before this House: the bill of the gentleman from New York [Mr. Cox], providing for three hundred and one members; the bill of the majority of the committee, providing for three hundred and eleven members; the bill that was presented by myself, and is sustained by the minority with but one exception, providing for three hundred and nineteen members. Now, in discussing these ratios, all the principles involved in this subject can be seen and understood. The same method of arriving at the conclusions can be applied to any one of the numbers that is applied to these.

"Upon the basis of three hundred and one Representatives each of the following-named States gain one member: Arkansas, South Carolina, Mississippi, West Virginia, California, Iowa, and Michigan; Nebraska and Minnesota each gain two, Kansas three, and Texas four—a gain of eighteen in all, of which the Democratic States have eight and the Republican States ten.

"The losses upon a basis of three hundred and one are one each for the States of Florida, Indiana, Maine, New Hampshire, Ohio, Pennsylvania, Tennessee, and Vermont, and two in New York, of which losses the certainly Demo-

cratic States sustain two and the Republican States eight, making a net gain to the certainly Democratic States of six and to the Republican States which are sometimes Democratic of two. The eighteen States not named neither gain nor lose.

"Upon a basis of three hundred and eleven members fifteen States gain altogether twenty-two members, namely: Arkansas, California, Georgia, Iowa, Michigan, Mississippi, Missouri, North Carolina, South Carolina, Virginia, and West Virginia, gain one each; Minnesota and Nebraska two each; Kansas three, and Texas four; of which gain the certainly Democratic States have twelve and the other States ten.

"Four States, Maine, New Hampshire, Vermont, and New York, each lose one, leaving the net gain to the certainly Democratic States twelve and to the Republican States six. The other nineteen States neither gain nor lose.

"Upon a basis of three hundred and nineteen, the bill of the minority, twenty-one States gain twenty-nine members, namely, Arkansas, California, Mississippi, North Carolina, South Carolina, Georgia, Illinois, Iowa, Missouri, Ohio, Kentucky, Massachusetts, New York, Pennsylvania, Virginia, and West Virginia, each one; Nebraska, Minnesota, and Michigan, each two; Kansas three, and Texas four; of which number the certainly Democratic States gain thirteen and the other States sixteen.

"Upon the basis of three hundred and nineteen, three States, Maine, New Hampshire, and Vermont, each lose one, making the net gain to the certainly Democratic States thirteen, and to the other States thirteen, and producing an equality of gains between the States certainly Democratic and the other States.

"To recapitulate: Upon a basis of three hundred and one, the certainly Democratic States have a net gain of six; the other States have a net gain of two. Upon a basis of three hundred and eleven, the certainly Democratic States have a net gain of twelve; the other States have a net gain of six; Upon a basis of three hundred and nineteen, the certainly Democratic States have a net gain of thirteen; the other States have a net gain of thirteen.

"Fewer States (only three) lose upon the last basis than upon either of the others.

"Fewer States (fourteen) stand still, without gain or loss, than upon the other rates. And four of these fourteen States, namely, Oregon, Nevada, Colorado, and Delaware, could not gain upon any practicable ratio, thus leaving only ten States stationary.

"The gains and losses under the different ratios are owing to the change of divisor and consequent change of fractions. Upon the basis of three hundred and one, the number of Representatives upon an even division would be but two hundred and eighty-two, and the twenty highest fractions are therefore each given a Representative to make the number three hundred and one.

"Upon a basis of three hundred and eleven,

and also three hundred and nineteen, members are given to eighteen fractions. The States which gain a member upon a fraction at three hundred and nineteen, which do not have them at three hundred and eleven, are Illinois, Kentucky, Massachusetts, Michigan, New York, Ohio, and California.

"The basis of three hundred and twenty-two would give a net gain of thirteen to the States certainly Democratic, and sixteen to the other States. But in the interest of fairness the minority chose three hundred and nineteen instead of three hundred and twenty-two.

"I do not contend that the different sections of the country should necessarily gain equally in their representation. Of course that must depend upon the population of the States and sections. But, as will be seen by the examples I have given, there is quite a latitude within which changes may be made, and within those limits is the field of dispute, over which is waged the war of debate, upon which also are sought to be gained advantages which could not be secured upon a division based upon whole numbers only and not partly upon fractions. This being so, we must recognize the fact, and select that number for a ratio which will be most fair and equitable in its operation.

"Another point worth observing is that all the gains on present representation between the numbers three hundred and one and three hundred and eleven fall to the Southern States, the South, as I have before pointed out, at the latter number having a net gain of six; while between the numbers three hundred and eleven and three hundred and nineteen all the gains but one are in the Northern States, and having arrived at three hundred and nineteen the gains between North and South are equal. Another thing to be observed is that the greatest loss which the New England and central States sustain actually and relatively is at three hundred and one. The central States do not hold their own until they pass three hundred and eleven.

"Can any member in this House, in the face of these figures, vote for either of the numbers three hundred and one or three hundred and eleven? The only reasonable excuse for so doing is that three hundred and nineteen makes the House too large. It is but eight larger than three hundred and eleven. Who can say an addition of eight or eighteen would be at all perceptible in this House?"

Mr. Crowley, of New York: "Every apportionment bill pending in this House bases representation upon numbers only. That was the principle of the old Constitution, under which nine censuses were taken and nine apportionments made; but under section 2 of the fourteenth amendment voters as well as numbers may be taken into the account in apportioning Representatives among the respective States; and when any State denies to any of its qualified male citizens, being twenty-

one years of age, the right to vote for any of the officers specified in the fourteenth amendment, in my judgment that State should be denied representation in this House in the proportion which it denies the right of voting to any of its male citizens otherwise qualified.

"Turning to the Constitutions of the States, we find that Massachusetts and Connecticut disqualify citizens on educational grounds. I am not going to criticise the wisdom of those States. I am not standing here to attack either of those States or any others; and let me say in passing that the question of education is becoming one of the paramount questions of the present time. Thoughtful men, who are anxious for the perpetuity of our institutions, who are looking to the future welfare of this republic, are scanning closely the Constitution to find whether or not there are any powers in it authorizing Congress to take control of the whole subject of education for the nation and for all the States of the nation. But let me say that while Massachusetts and Connecticut have imposed an educational qualification which debars certain citizens in those States from voting for the officers enumerated in section 2 of the fourteenth amendment, Massachusetts, Delaware, Georgia, New Hampshire, Pennsylvania, Rhode Island, Tennessee, Texas, and Virginia have added a property qualification, either in regard to the amount of property which the voter shall possess, or in regard to the payment of poll-taxes, or county, State, or municipal taxes.

"Let me call attention somewhat to the effect of this in regard to representation in this House. The State which I have the honor to represent in part upon this floor sends here under the apportionment act of 1872 thirty-three Representatives. In the last election of those Representatives the total vote for Representatives in Congress in each of those thirty-three districts was not less than 23,000; and in the Erie district, where the highest vote was cast, there was a little upward of 45,000 votes cast for candidates for Representative in this House.

"Now turn to the State of Rhode Island. Rhode Island in the last presidential election cast 29,210 votes, all told, for the presidential electors, and both of the members from the first and second congressional districts of that State had had cast for them and for their opponents all told in both of those districts only 28,964 votes. That is the aggregate of both districts. In twenty-three of the congressional districts of the State of New York there was a larger vote than 28,964 cast for congressional candidates in each and every one of those twenty-three congressional districts.

"Now, Mr. Speaker, the gentleman from New York [Mr. Cox], chairman of the Committee on the Census, asks, in regard to the effect of the fourteenth amendment, a question which I think should receive an answer at this time and in this place.

"The first question which arises under this second section of the fourteenth amendment is, What is a denial or abridgment of the right to vote as contemplated? Must it be by law or by individuals? What constitutes a denial or abridgment if otherwise than by law? What is the amount of private force and intimidation, or the kind of device or fraud, which constitutes a denial or abridgment? The last act of apportionment was passed on the 2d of February, 1872. It did not pretend to settle this or anything else as to this fourteenth amendment. It re-enacted the clause of the Constitution, and fixed the power which must deny or abridge.

"It says 'should any State' deny or abridge. It does not say person or community or other organism; so that, in so far as any interpretation may be drawn from the law of 1872, the only constraint on suffrage must be from the State and by legal enactment. No practical application has been made of the constitutional clause or the law. It has been hitherto a dead letter. Nor is it possible now, with any known data ascertainable with reasonable accuracy, to apply either the Constitution or the law to the apportionment.

"Now, let me say, sir, that the answer to the question asked by the chairman of the Committee on the Census has been given by the Supreme Court of the United States at the October term in 1879, in the matter of the Commonwealth of Virginia and J. D. Coles, petitioner. That was a writ of *habeas corpus*, coming up from the State of Virginia, in regard to a county judge in one of the counties of that State, who was charged with having refused to select jurors under the provisions of the recent amendments to the Constitution of the United States.

"The Supreme Court in rendering judgment—Justice Strong delivering the opinion—holds in regard to that the following, to which I particularly ask the attention of the House. In speaking of these recent constitutional amendments, and the legislation necessary to carry them into operation, the court observes, 'All of the amendments derive much of their force from this latter provision.' That is, the provision existing in Congress to pass appropriate legislation to enforce them:

"It is not said the judicial power of the General Government shall extend to enforcing the prohibitions and to protecting the rights and immunities guaranteed. It is not said that branch of the Government shall be authorized to declare void any action of a State in violation of the prohibitions. It is the power of Congress which has been enlarged. Congress is authorized to enforce the prohibitions by appropriate legislation. Some legislation is contemplated to make the amendments fully effective. Whatever legislation is appropriate, that is adapted to carry out the objects the amendments have in view—whatever tends to enforce submission to the prohibitions they contain, and to secure to all persons the enjoyment of perfect equality of civil rights, and the equal protection of the laws against State denial or invasion, if not prohibited—is brought within the domain of congressional power. Nor does it make any difference that such legislation is restrictive of what the State might have done before the constitutional amendment was adopted.

"And let me say here, all these constitutional qualifications or limitations which exist in these ten States I have named, I believe without exception, unless in the case of one or two of them, were passed before the adoption

of the fourteenth amendment to the Constitution :

"The prohibitions of the fourteenth amendment are directed to the States, and they are to a degree restrictions of State power. It is these which Congress is empowered to enforce, and to force against State action, however put forth, whether that action be executive, legislative, or judicial. Such enforcement is no invasion of State sovereignty. No law can be which the people of the States have, by the Constitution of the United States, empowered Congress to enact. This extent of the powers of the General Government is overlooked when it is said, as it has been in this case, that the act of March 1, 1875, interferes with State rights. It is said the selection of jurors for her courts and the administration of her laws belong to each State; that they are her rights. This is true in the general; but in exercising her rights a State can not disregard the limitations which the Federal Constitution has applied to her power. Her rights do not reach to that extent. Nor can she deny to the General Government the right to exercise all its granted powers, though they may interfere with the full enjoyment of rights she would have if those powers had not been thus granted. Indeed, every addition of power to the General Government involves a corresponding diminution of the governmental powers of the States. It is carved out of them.

"We have said the prohibitions of the fourteenth amendment are addressed to the States. They are: 'No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; . . . nor deny to any person within its jurisdiction the equal protection of the laws.'

"And now the court, in passing upon the exact phraseology used in section 2 of the fourteenth amendment, says:

"A State acts by its legislative, its executive, or its judicial authorities. It can act in no other way. The constitutional provision, therefore, must mean that no agency of the State, or of the officers or agents by whom its powers are exerted, shall deny to any person within its jurisdiction the equal protection of the laws. Whoever by virtue of public position under a State government deprives another of property, life, or liberty, without due process of law, or denies or takes away the equal protection of the laws, violates the constitutional inhibition, and as he acts in the name and for the State, and is clothed with the State's power, his act is that of the State. This must be so, or the constitutional prohibition has no meaning. Then the State has clothed one of its agents with power to annul or to evade it.

"But the constitutional amendment was ordained for a purpose. It was to secure equal rights to all persons; and, to insure to all persons the enjoyment of such rights, power was given to Congress to enforce its provisions by appropriate legislation. Such legislation must act upon persons, not upon the abstract thing denominated a State, but upon the persons who are the agents of the State in the denial of the rights which were intended to be secured.

"In 1876, in the fierce struggle for political power in this country, it was supposed that every State in the Union had polled its full vote for President in that year. New York, my own State, cast upward of a million in that election, the largest vote ever cast up to the election of 1880. Four years pass away. We have another presidential election in 1880, and it is fair to assume that the lapse of four years would have brought increased numbers of voters in all of the States of the Union, but it will be found that in certain States the vote cast in 1880 for presidential electors is con-

siderably less than that cast in 1876. I have stated as a reason for my opposition to the passage of any apportionment bill by this Congress that every one of these bills for the apportionment of Representatives is based upon numbers without taking into the count voters. Under the Constitution as amended, I regard voters as well as numbers a basis for an apportionment bill, where citizens are denied the right to vote by State action. I am not speaking in a partisan sense; but it is alleged and believed that in some parts of the Union, in some of the States in this Union or in some sections of the country, there exist and have existed fraud, intimidation, and violence, by which means a large number of voters have been denied the right of voting in elections in the past. I do not assert, sir, whether that is so or not. The allegation has been made, and it is believed in a portion of this Union that this condition of affairs absolutely exists.

"I am in favor of having one of the committee of this Congress, or a select committee, if you please, raised, which shall investigate the whole question of disqualification, either educational or property, in all these States of the Union where constitutional prohibitions against the right of suffrage are alleged to exist; and I would have this committee look into this whole question and report to Congress what qualifications or disqualifications exist in all sections of the country to deprive citizens of the right to vote."

Mr. Thompson, of Kentucky: "Mr. Speaker, I do not see why we should go into this matter at all. It is a dangerous subject, to say the least of it, when we see what progress has been made in this direction by the legislation of Congress during the last forty years. The year 1842 was the first time that Congress ever undertook to interfere with the regulations of the States on this subject. Then it was that the moiety system was first adopted, giving to each State on even divisions so many Representatives, and to each State having a fraction greater than one half an additional member. At that time another change was introduced. Theretofore, whenever it was necessary to apportion representation, the ratio was first found, the populations of the States divided by that ratio, and whatever number of members they might obtain by that division was given to them. Then for the first time a limit was fixed upon the membership of this House, the number being fixed at two hundred and forty-one, and the ratio being adopted to produce that result. Theretofore a ratio was determined, and the number of members was left to be what it might under the ratio determined. A new system was devised, carrying with it the moiety system, or some system allowing fractional representation. Then for the first time what is now known as the district system was adopted. How have we progressed in our legislation on this subject? We have gone on until Congress has assumed almost entire con-

trol of the election of members in the States. In 1870, 1871, and 1872, when the Republican party was in power in both branches of Congress, they seized upon this whole subject; they forced upon the States the ballot system, which many of them do not like, and which produces more fraud in one day than the *viva voce* system will in a hundred years, as those of us who have lived under both systems well know. We hear more of fraud, corruption, ballot-box stuffing, and intimidation in a single contested-election case in this House than the whole State of Kentucky furnishes in all our elections for State officers during twenty-five years.

"Is it wise for this House to interfere? What is the object? Congress has thus interfered to direct the States as to the time when they shall elect their Representatives, fixing a uniform day, thereby throwing the power and control of the Federal Government, with its innumerable supervisors and deputy-marshals, into the State elections which occur on the same day. Then came the legislation providing for supervisors and deputy-marshals, of whom we have heard so much. Complete machinery has been provided by the central Government here to dominate the States in their elections. I am opposed to this interference on the part of the Government with the States, even for the purpose of dictating to them that they shall elect by districts. It is inconsistent with the theory upon which our Government is based. If you will go back and look at the history of that provision in the Constitution under which this action is had, you will find that nine out of the thirteen original States which adopted that Constitution adopted it with the distinct understanding that Congress never would exercise that latent power except for the purpose of self-preservation, as in cases where a State refuses to elect Representatives, or from some other cause could not.

"Under what section of the Constitution, Mr. Speaker, does Congress claim power to pass these clauses regulating the elections of Representatives by the States? There is but one—in these words:

"The times, places, and manner of holding elections for Senators and Representatives shall be prescribed in each State by the Legislature thereof; but the Congress may at any time by law make or alter such regulations, except as to the places of choosing Senators.

"And no provision of that instrument aroused so much opposition to its adoption by the States as this. Nearly all the conventions placed upon record their solemn protest against its use being ever resorted to, except as a matter of self-preservation. Opposition was not confined to sections. In fact, State rights had its birth and earliest propagandist and defender among the New England States and around Plymouth Rock. Massachusetts, in her convention, said:

"The convention do, therefore, recommend that the following alterations and provisions be introduced into the said Constitution:

"SECTION 3. That Congress do not exercise the powers vested in them by the fourth section of the first article, but in cases when a State shall neglect or refuse to make the regulations therein mentioned, or shall make regulations subversive of the rights of the people to a free and equal representation in Congress, agreeably to the Constitution.

"Thus it will be seen the old State of Massachusetts, always zealous of her rights as a State, left a record to future Congresses, in the following language:

"And the convention do, in the name and in behalf of the people of this Commonwealth, enjoin it upon their Representatives in Congress, at all times, until the alterations and provisions aforesaid shall have been considered, agreeably to the fifth article of the said Constitution, to exert all their influence, and use all reasonable and legal methods, to attain a ratification of the said alterations and provisions, in such manner as is provided in the said article.

"I will take South Carolina next, and part of the record of her convention, which adopted the Constitution for her people:

"And whereas it is essential to the preservation of the rights reserved to the several States, and the freedom of the people, under the operations of a general government, that the right of prescribing the manner, time, and places of holding the elections to the Federal Legislature, should be for ever inseparably annexed to the sovereignty of the several States, this convention doth declare that the same ought to remain, to all posterity, a perpetual and fundamental right in the local, exclusive of the interference of the General Government, except in cases where the Legislatures of the States shall refuse or neglect to perform and fulfill the same, according to the tenor of the said Constitution.

"It is grandly sublime to study the history of those times and men after a new nation had been born, to note the unanimity of sentiment of their jealous vigilance for the rights of the States and the people. The instruction of the convention to its Representatives in Congress is of no doubtful meaning, namely:

"Resolved, That it is a standing instruction to all such delegates as may hereafter be elected to represent this State in the General Government to exert their utmost abilities and influence to effect an alteration of the Constitution conformably to the foregoing resolutions.

"The State of New Hampshire follows next, whose conventions took under consideration this particular section of the Constitution, and upon her record are found the following emphatic entries:

"The convention do therefore recommend that the following alterations and provisions be introduced into the said Constitution: 3. That Congress do not exercise the powers vested in them by the fourth section of the first article but in case when a State shall neglect or refuse to make the regulations therein mentioned, or shall make regulations subversive of the rights of the people to a free and equal representation in Congress; nor shall Congress in any case make regulations contrary to a free and equal representation.

"And the convention do, in the name and in behalf of the people of this State, enjoin it upon their Representatives in Congress at all times until the alterations and provisions aforesaid have been considered agreeably to the fifth article of the said Constitution, to exert all their influence and use all reasonable and legal methods to obtain a ratification of the said

alterations and provisions in such manner as is provided in the said article.

"The wise statesmanship of Virginia, whose vigilance and prudence had a controlling influence from the Declaration of Independence in 1776 to the adoption of the Constitution in 1787, has left upon its record a declaration on this amendment strong, emphatic, and to the point, in the following words, namely :

"XVI. The Congress shall not alter, modify, or interfere in the times, places, or manner of holding elections for Senators and Representatives, or either of them, except when the Legislature of any State shall neglect, refuse, or be disabled by invasion or rebellion to prescribe the same.

"They placed upon the same record a perpetual instruction to their future Representatives in Congress of the United States, namely :

"And the convention do, in the name and behalf of the people of this Commonwealth, enjoin it upon their Representatives in Congress to exert all their influence, and use all reasonable and legal methods, to obtain a ratification of the foregoing alterations and provisions, in the manner provided by the fifth article of the said Constitution ; and in all congressional laws to be passed in the mean time to conform to the spirit of these amendments, as far as the said Constitution will admit.

"The next in order is now one of the most powerful and influential States in the Union ; and I ask to be pardoned for quoting from a distinguished Senator from the State of Louisiana, Mr. White, who I believe was a native of New York, when he said he 'referred with pride and pleasure to the proceedings of her convention upon this important point' :

"New York was not then a large State in the comparison ; and yet the cautious jealousy of her statesmen against this wanton exercise of Federal power over her local elections was not the less, because she had at that day the less to fear and to lose from the assumption. Her record is more full as to this grant of power than that of any other State, as her convention seem to design to set up every guard against an abuse of its exercise. They therefore, in express terms, first put their construction upon the clause of the Constitution as they found it, in the following language, to wit : 'That nothing contained in the said Constitution is to be construed to prevent the Legislature of any State from passing laws at its discretion, from time to time, to divide such State into convenient districts, and to apportion its Representatives to and among such districts.'

"After this emphatic declaration of the rights of the States, the Convention of New York proceeded to make their ratification of the Constitution in this language :

"Under these impressions, and declaring that the rights aforesaid are consistent with the said Constitution, and in confidence that the amendments which shall have been proposed to said Constitution will receive an early and mature consideration, we, the said delegates, in the name and in the behalf of the people of the State of New York, do, by these presents, assent to and ratify the said Constitution. In full confidence, nevertheless, that, until a convention shall be called and convened for proposing amendments to the said Constitution . . . that the Congress will not make or alter any regulation in this State respecting the times, places, and manner of holding elections for Senators or Representatives, unless the Legislature of this State shall neglect or refuse to make laws or reg-

ulations for the purpose, or from any circumstance be incapable of making the same ; and that in those cases such power will only be exercised until the Legislature of this State shall make provision in the premises.

"The Convention of New York went even further than this. They looked forward with prophetic vision at the encroachments of the Federal power, and to warn them of the danger of centralization they proceeded to instruct their future Representatives against that encroachment, to wit :

"And the convention do, in the name and behalf of the people of the State of New York, enjoin it upon their Representatives in the Congress to exert all their influence and use all reasonable means to obtain a ratification of the following amendments to the said Constitution in the manner prescribed therein, and in all laws to be passed by Congress, in the mean time, to conform to the spirit of the said amendments, as far as the Constitution will admit.

"The amendment proposed by the convention follows, and is in this language, namely :

"That the Congress shall not make or alter any regulation in any State, respecting the times, places, and manner of holding elections for Senators or Representatives, unless the Legislature of such State shall neglect or refuse to make laws or regulations for the purpose, or from any circumstance be incapable of making the same ; and then only until the Legislature of such State shall make provisions in the premises : *Provided*, That Congress may prescribe the time for the election of Representatives.

"On that account, Mr. Speaker, because there is no necessity that this law shall be reenacted by this Congress, because it endangers this apportionment bill and may prolong indefinitely this debate, because, to say the least of it, it is of doubtful constitutionality, because it is almost in the nature of things, where any State dares to violate it, which she may do, we can do no more than exclude her Representatives from the halls of the House, I hope it will not be insisted upon. I ask these gentlemen who now contend so stubbornly for it, suppose a State, according to the rule as you understand it, does not make her territory contiguous ; or suppose every district of that State is based on contiguous territory save one, are you going to exclude all the members of such a State because she has not complied in one instance with what you understand to be the requirement of this law ? This power was given to you to bring members into Congress, not to drive them out. Will you turn around and use it for that purpose ? Will you say to New York, with thirty-three members here upon this floor, If your Legislature does not square itself according to the rule which we prescribe, we will exclude your thirty-three members, although you have five million people, and they will go unrepresented upon this floor ? How do you propose to do it ? Is it not a *brutum fulmen* which you issue against the State, directing them to do this thing, without the power on your part except by the exclusion of its representation to compel it to do it ?

"Now, Mr. Speaker, I have little more, if

anything, to say on that subject. I do not wish to invoke sectional issues here, nor do I wish to get up a partisan strife on this subject; but I do say, as the law stands on the statute-book it gives to gentlemen on the other side all they ask, and it is unnecessary to ask us on this side to re-enact it, or meddle with elections in the States against the protest of our forefathers, made, as it has been, so often and so emphatically.

"The other objection alleged by the gentleman from New York against the bill of the majority was, if I recollect aright, the increase of the number of the House. That is a question, of course, which each member must consider for himself, and we have all equal lights before us and can form each our own opinion as to whether the country can be better served by a smaller or larger House. I listened to what he had to say on that subject, and when he cited his own great State with a small Legislature, as he said, probably one that dates back for sixty years and not increased through that whole time, as a fair sample of what a State can be and what it can do with a small Legislature, I thought it was a little unfortunate, because, out in our part of the world at least, New York is not considered the freest State from fraud, nor her Legislature the most incorruptible in the Union. We have never heard any charge against New Hampshire, which I believe has a Legislature like a great big town-meeting, like that which is made against the Legislature of New York, of having big railroad bills and measures for railroad interests lobbied through it, and that men were elected to it who were controlled and held in hand and sent there, as it is understood, to be in a large measure the attorneys and promoters of railroad corporations and banking interests. I do not know that it would be better for his State to have an increased representation in her Legislature, but I am satisfied it would do her no harm.

"As far as we of the committee are concerned, and at least as far as I personally am concerned, in reference to the number of Representatives, I do not ask nor demand the House to be increased to any extraordinary number. It certainly seems to me when we increase the number eighteen, as the majority bill in this House proposes to do on an increased population of eleven millions, it is asking no big increase, because it fixes the representation at over five hundred and fifty thousand population for each of the new members who can enter this House on account of the increase. Is that increase an expansion too far? Do we not derive some practical benefit from it? Have we not the history of the world before us, which shows that a large representative body is a safer and greater protector to the liberties of the people than a smaller one? The gentleman would like to reduce this House within the narrow limits of the Senate. Are we to have no popular branch of this Government;

and are the people to have no voice in it? Are we to hold it up as a model republic, and at the same time stifle the direct voice of the people? Where else is their power directly felt in our system of government save in this House?"

On March 3d, the rules were suspended and the bill put upon its passage, and at the same time a vote was taken on the respective number of members proposed.

On the question of the number of Representatives fixed at three hundred and twenty-two, the vote was—yeas 119, nays 132.

On the question with the number fixed at three hundred and nineteen, the vote was—yeas 136, nays 123.

The bill was then passed—yeas 145, nays 113. No action was taken upon it in the Senate; and the session closed on March 3d.

SPECIAL SESSION OF THE SENATE.

At noon, on the 4th of March, Vice-President Arthur, who had just taken the oath of office, assumed the chair in the Senate, and the official proclamation calling a special session of that body was read. The chief object in calling this session was to enable the Senate to receive and act upon such appointments as the new President might desire to submit. The terms of office of twenty-five Senators had expired with the Forty-sixth Congress, and their successors were as follows:

STATE.	Former Senator.	New Senator.
California.....	Newton Booth.....	John F. Miller.
Connecticut.....	W. W. Eaton.....	Joseph R. Hawley.
Delaware.....	T. F. Bayard.....	T. F. Bayard.
Florida.....	Charles W. Jones..	Charles W. Jones.
Indiana.....	Jos. E. McDonald..	Benj. Harrison.
Maine.....	Hannibal Hamlin..	Eugene Hale.
Maryland.....	William P. Whyte..	A. P. Gorman.
Massachusetts...	H. L. Dawes.....	H. L. Dawes.
Michigan.....	H. P. Baldwin.....	O. D. Conger.
Minnesota.....	S. J. R. McMillan..	S. J. R. McMillan.
Mississippi.....	B. K. Bruce.....	J. Z. George.
Missouri.....	F. M. Cockrell.....	F. M. Cockrell.
Nebraska.....	A. S. Paddock.....	Chas. H. Van Wyck.
Nevada.....	William Sharon....	J. G. Fair.
New Jersey.....	T. F. Randolph....	Wm. J. Sewell.
New York.....	Francis Kernan....	Thomas C. Platt.
Ohio.....	A. G. Thurman....	John Sherman.
Pennsylvania....	W. A. Wallace.....	John I. Mitchell.
Rhode Island....	A. E. Burnside.....	A. E. Burnside.
Tennessee.....	J. E. Bailey.....	Howell E. Jackson.
Texas.....	S. B. Maxey.....	S. B. Maxey.
Vermont.....	G. F. Edmunds.....	G. F. Edmunds.
Virginia.....	R. E. Withers.....	William Mahone.
West Virginia...	Frank Hereford....	Johnson N. Camden
Wisconsin.....	Angus Cameron....	Angus Cameron.

The result of these changes was an equal political division of the Senate. There were 37 Republicans and 37 Democrats, while General Mahone, of Virginia, elected by the Readjuster wing of the Democratic party, and Judge Davis, of Illinois, were rated as independents. The President's Cabinet appointments, which were submitted on the second day of the session, were promptly confirmed. They took three members from the Senate, viz., Blaine, of Maine, Windom, of Minnesota, and Kirkwood, of Iowa, whose places were subsequently filled by the election of William P. Frye in Maine, and

the gubernatorial appointment of A. J. Edgerton in Minnesota and J. W. McDill in Iowa. The organization of the Senate threatened to be a matter of some difficulty on account of the equal political division, both parties indicating a purpose of insisting on controlling the composition of the committees and the election of officers. They accordingly held caucuses and arranged the membership of committees, the Republicans also selecting candidates for the offices. General Mahone and Judge Davis took no part in either caucus. The Democratic list of committees was submitted in a resolution for their appointment by Mr. Pendleton on the 10th of March. The Republicans had declined to fill in the places reserved for their party according to custom, and the Democrats had arranged the entire membership, giving their opponents the customary minority of places. The Republicans determined at once to resist the adoption of the Democratic resolution. Mr. Davis, of Illinois, who had been named for the chairmanship of the Judiciary Committee, declined the place in a speech in which he defined his position. He had been elected to the Senate in 1877 unexpectedly to himself by a Legislature in which the Republicans had a plurality, but chiefly by Democratic votes. He explained his former connection with the Republican party, his participation in the Liberal movement of 1872, and his recent entirely independent attitude in politics, and declared that he should support the organization of the Senate as it stood. His closing words were: "Every good citizen should desire the success of the Administration, for we all ought to have a common interest in the glory and in the greatness of the republic. Measures intended to advance either shall have my cordial support. The President and his Cabinet are entitled to a fair hearing, and to be judged impartially by their acts. If they fail to justify the public confidence, it will be a misfortune which has overtaken other administrations having equally good intentions and prospects. I shall vote for the appointment of all these committees, except the Judiciary Committee. I wish to retain my old place on the Judiciary Committee, and, though I am thankful to my friends, I must decline the position of chairman." General Mahone did not appear in the chamber until the second day of the debate on the resolution appointing the committees, which occurred on the 14th of March. In answer to charges of desertion and bad faith made by Mr. Hill, of Georgia, he declared his position, claiming to be a Democrat in principle, but not to owe his position in the Senate to that party, and announcing his purpose to vote with the Republicans in organizing the chamber. The same day the Republican list of committees was prepared, but it was determined to postpone action until the vacancies then existing in the Senate had been filled. After General Mahone's position had been defined, the Democrats, having the casting vote

of the Vice-President against them, gave up the contest for the control of the committees. On the 18th of March the resolution submitting the Democratic list came up as the pending business, and a motion was made by Mr. Anthony to postpone it indefinitely. The result was 37 yeas and 37 nays, and the Vice-President announced, "The votes being evenly divided, the Chair will vote ay." A protest was entered by Mr. Saulsbury, of Delaware, against the right of the Vice-President to a casting vote in the organization of the committees. The Republican list of committees was then adopted by the same vote, Judge Davis acting with the Democrats and General Mahone with the Republicans.

The Democrats determined to make a resolute stand for the organization of the Senate itself, as it stood, and the retention of the existing Secretary, Sergeant-at-Arms, and clerks. The Republicans, on the other hand, resolved to contest their right and power to retain control of the subordinate offices of the body, and in caucus on the 23d of March nominated George C. Gorham for Secretary, and Henry Riddleberger, a Virginia Readjuster, and a leading supporter of Mahone, for Sergeant-at-Arms. The Democrats decided in caucus, on the day following, to oppose the adoption of a resolution for the election of Secretary, Sergeant-at-Arms, and other officers of the Senate, resorting to motions to adjourn and to go into executive session for the purpose of staving off action, as the Republicans had done to secure delay in constituting the committees. The motious involved in this plan of action were made the subjects of a series of speeches on both sides, in which attempts were made to justify the course persisted in by either party. Senator Davis, of Illinois, again defined his independent position. He explained that his previous vote, in regard to the committees, had been intended to sustain the existing organization of the Senate, but the control of the committees being changed, notwithstanding his vote, he now deemed it proper that the same party should complete the organization. He said that the majority entitled to control had been disclosed by the casting vote of the Vice-President. "However fleeting and fractional that majority may be, we are commanded to accept and obey it. The majority that chose the committees is fairly entitled to choose the officers of the Senate. One naturally goes with the other in order to perfect the organization. This conclusion will neither be delayed nor obstructed by any vote of mine, and it can not be reached too soon for the public interest. I do not regret at all that the new Administration, which has to confront the country with its policy, should have the control of both branches of Congress. The responsibility for measures to be proposed can not be avoided with the power to initiate legislation. The majority is not large enough to indulge in rash experiments, and the minority

is sufficiently strong to check any tendency to excess. Between these two elements, the great voice of independent opinion can always be heard with effect, and the country has every prospect of peace and prosperity." Judge Davis, accordingly, voted with the Republicans in favor of proceeding to the election of officers; but the dilatory tactics of the Democrats were kept up, and prevented the adoption of the resolution offered by Mr. Dawes, of Massachusetts, for that purpose. The contest, however, was continued through the entire month of April, the debate taking a wide range over the political field. General Mahone took occasion to defend the financial policy of the Readjusters in Virginia, and was answered by his colleague, General Johnston. Mahone's party attitude in the Senate was made the subject of severe criticism by Hill, of Georgia, and others, and several heated colloquies took place. The method of conducting political canvasses and elections in the South was brought under discussion, and the suffrage laws of some of the Northern States were denounced. There was scarcely a question of recent or current politics that was not made a subject of debate.

On the 27th of April the Republican Senators held a caucus for the purpose of considering whether they should consent to an executive session, at which the President's appointments could be acted upon. The question was referred to a caucus committee which was instructed to consider the situation and make a report of its conclusions. The efforts of this committee were directed mainly to ascertaining whether harmony could be secured in acting upon certain pending nominations. On the 22d of March, the last day on which an executive session had been held, the following names had been submitted by the President for appointment in the State of New York: Stewart L. Woodford to be District Attorney for the Southern District; Asa W. Tenney, District Attorney for the Eastern District; Louis F. Payn, Marshal for the Southern District; Clinton D. MacDougall, Marshal for the Northern District; and John Tyler, Collector of Customs at Buffalo. These men were known as more or less close political friends of Senator Conkling, and their appointment was presumed to be agreeable to him. The next day, March 23d, William H. Robertson was named for Collector of Customs at the port of New York; Edwin A. Merritt, the incumbent of that office, received the appointment of Consul-General at London, and General Adam Badeau was transferred to the position of *Chargé d'Affaires* to Denmark, Mr. Cramer being transferred to Switzerland. There were other important appointments submitted at the same time, but they gave no occasion for a contest. Mr. Robertson had been a pronounced opponent of Mr. Conkling in the leadership and management of the Republican party in New York, and it was known that his appointment was very distasteful to the

Senator. How far his opposition to its confirmation would be carried was not definitely known, and the chief object of this caucus committee, appointed April 27th, was to ascertain whether antagonism between him and the President could not be reconciled. The President disclaimed any purpose of offending Mr. Conkling or slighting his just claims to be consulted, but took the position that the collectorship at New York was a national office, over which there could be no local claims, and that he felt entirely free to make the appointment according to his own best judgment. He distinctly intimated a purpose to adhere to his former action, while Senator Conkling showed no disposition to abate his claim to a controlling voice in the selection of Federal officers in New York. The caucus was called together on the 3d of May, and decided to agree to executive sessions on the following days for the consideration of appointments, those which were uncontested being first acted on. On the 4th Mr. Dawes rose to explain the course of his party in persisting in the effort to elect the officers of the Senate, and, insisting on the right of its position, proposed a suspension of the contest in order that the President's appointments might be acted upon. By a unanimous vote the Senate went into executive session, confirmed several appointments, and took up the treaties with China. Seeing that it was the plan of Senator Conkling to secure, if possible, the confirmation of the uncontested appointments, including those within the State of New York, and then to induce the Senate to adjourn without acting upon the others, President Garfield, on the 5th of May, withdrew the names of Woodford, Tenney, Payn, MacDougall, and Tyler. The same day the Chinese treaties were ratified, and numerous appointments were confirmed.

The action of the President in withdrawing the other New York appointments brought the contest with Senator Conkling over that for the collectorship to a distinct issue, which the Senate could not avoid meeting. All efforts to compromise the difficulty were futile. A caucus of Republican Senators was held on the 9th of May, in which Senator Conkling stated his claims at great length, and charged the President with bad faith and violation of his pledges. The caucus continued its discussions on the 10th, when Senator Edmunds withdrew a resolution which he had offered the day before, in favor of postponing action on Robertson's case until December. The caucus made no decision at that time on the course to be adopted, and another was held on the 13th, with a like result. Meantime a contest had been carried on in the Senate over the appointment of Stanley Matthews, of Ohio, to be an Associate Justice of the Supreme Court. It was confirmed on the 12th by a majority of one vote.

It having become evident that no action could be secured on the part of the Republican

Senators, hostile to the confirmation of Judge Robertson's appointment as Collector, on the 16th of May both the New York Senators, Roscoe Conkling and Thomas C. Platt, sent notice to the Vice-President that they had that day forwarded the resignation of their seats to the Governor of their State. Their reasons for adopting this course were set forth in a joint letter of resignation addressed to Governor Cornell. (See NEW YORK.) The appointments of Mr. Robertson as Collector of the Port of New York and of Mr. Merritt as Consul-General at London were confirmed, almost without opposition, on the 18th of May. The name of General Badeau for *Chargé d'Affaires* to Denmark was withdrawn at his own request. Among the other appointments confirmed the same day were those of Thomas A. Osborn as Minister to Brazil, in place of H. W. Hilliard recalled; and Judson Kilpatrick as Minister to Chili, in place of Mr. Osborn. On the following day the nominations for offices in the State of New York, which had been withdrawn, were renewed, but the name of Henry E. Knox was substituted for that of Louis F. Payn as Marshal of the Southern District, and that of Charles A. Gould for that of John Tyler as Collector of Customs at Buffalo. An appointment to which much opposition was developed was that of William E. Candler, of New Hampshire, to be Solicitor-General. The vote in the Judiciary Committee was a tie, two members being absent who were opposed to confirmation. The name was reported without recommendation, and, on the 20th of May, was rejected by a majority of five in the executive session. The same day the New York appointments and some others were confirmed, and the Senate adjourned without any renewal of the contest over the election of officers.

SECOND SPECIAL SESSION OF THE SENATE.

On the 23d of September, President Garfield having died in the mean time, President Arthur, his successor, issued a proclamation convening the Senate in extraordinary session on the 10th of October following. The main object of this was understood to be the election of a President of that body, as the accession of the Vice-President to the executive chair left no officer in the line of succession, in case of the death, resignation, removal, or disability of the incumbent. Before the Senate met there was some controversy as to whether the presiding officer should be chosen before the new Senators were admitted. The resignation of Messrs. Conkling and Platt, and the death of Senator Burnside, of Rhode Island, had produced three vacancies on the Republican side, giving the Democrats control of the organization, if it was to be effected before their successors were sworn in. Both parties held caucuses on the 8th of October. The Republicans questioned the right of the Democrats to elect a presiding officer before the new Senators were sworn, but resolved to confine their opposition to a formal protest.

They appointed a committee to confer on the subject with a similar committee on the part of the Democratic Senators. Before receiving information of this action, the Democrats had decided that the Chief Clerk should call the Senate to order, and that the resolution for the election of a President *pro tem.* would then be in order and should be offered. They selected Mr. Bayard, of Delaware, as their candidate. They consented to the appointment of a committee of conference, but there was no agreement reached, as neither party was disposed to recede from its position. The Republican candidate for the temporary presidency was Mr. Anthony, of Rhode Island.

After the preliminaries of opening the session on the 10th had been disposed of, Mr. Pendleton offered a resolution that Mr. Bayard, of Delaware, "is hereby chosen President *pro tem.* of the Senate." Mr. Edmunds arose and presented the credentials of Messrs. Miller and Lapham, of New York, and Aldrich, of Rhode Island, and moved that they be first sworn by Mr. Anthony, the oldest member of the session in continuous service. He claimed that this was in accordance with right and with precedent. It was claimed on the other side that the law requiring new Senators to be sworn in by the presiding officer could not be set aside unless by unanimous consent. A motion to lay Mr. Edmunds's proposition on the table was adopted by a vote of 36 to 34. General Mahone was absent, and Judge Davis voted in the negative with the Republicans. Mr. Edmunds then moved to amend Mr. Pendleton's resolution, by providing that Mr. Bayard be chosen President *pro tem.* "for to-day." This was negatived by a party vote, Davis, of Illinois, still acting with the Republicans. Then Mr. Edmunds moved to substitute the name of Mr. Anthony for that of Mr. Bayard, which was also negatived. The original resolution of Mr. Pendleton was adopted, 34 to 32, Mr. Davis not voting. The Democrats in caucus, the same day, determined to make no opposition to the admission of the new Senators, and not to press the election of a Secretary at present. They selected Colonel L. Q. Washington, however, as their candidate for that position. The new Senators were sworn on the 11th, without objection. The equal division of parties in the Senate, there being no longer a casting vote of the Vice-President, made the retention of Mr. Bayard as the presiding officer dependent on the vote of Senator Davis, in case the Republicans attempted to secure a change. The Republicans held a caucus on the 12th, and determined to propose Mr. Davis himself as the President *pro tem.* The next day a resolution continuing the standing committees was adopted by a vote of 37 to 35, and then a resolution was offered by Mr. Logan, of Illinois, for the election of his colleague, Senator Davis, as the presiding officer. This was adopted, yeas 36, nays 34, Bayard and Davis not voting. Messrs. Bayard and Anthony were appointed to escort

Mr. Davis to the chair. In accepting the position, he declared that he could not have done so if the manner in which he was chosen had not left him free from party obligations. He accepted the honor as a recognition of the independent position he had long occupied in the politics of the country.

The session, which was interrupted for a few days by the centennial celebration of the battle of Yorktown, came to an end on the 25th of October, having been devoted exclusively to executive business. Among the important nominations confirmed, was that of Charles J. Folger, of New York, for Secretary of the Treasury, Mr. Windom having insisted on resigning, and ex-Governor E. D. Morgan, of New York, having declined the position after his appointment had been made and confirmed. A contest was begun over the appointment of a postmaster at Lynchburg, Virginia, at the instance and in the supposed interest of General Mahone, but as it threatened to prolong the session it was dropped without action. The appointment was opposed by the Democrats, on the ground that it was intended to have an influence in the political canvass then pending in Virginia. An unwonted incident of this contest was a resolution adopted during an all-night sitting, directing the Sergeant-at-Arms to compel the attendance of certain absent members, in order to produce a quorum. The execution of this order led to a vigorous protest, signed by several Senators, which was entered on the journal.

CONNECTICUT. The members-elect of the Connecticut Legislature met at the Capitol and were organized for the session of 1881 on January 5th. Lyman W. Coe was elected President *pro tempore* of the Senate, and William C. Case Speaker of the House of Representatives; both were Republicans, and both elected by great majorities on a party vote.

On January 5th, also, the new Governor, Hobart B. Bigelow, was inaugurated. His message to the Legislature upon the condition of public affairs in the Commonwealth he sent in at once to the two Houses.

The constitutional amendment changing the manner of appointing the judges of the Supreme and Superior Courts, which was passed at the last session and submitted to the people for sanction or rejection at the town elections on October 5th, was ratified by their vote, and "thus became a part of the State Constitution."

The sanitary condition of the people of the State, owing apparently to want of caution and other causes, suffered in 1880; although there have been no serious epidemics, the general average of health has not been so good as during the two years preceding. The sanitary conditions of life, however, as regards drainage, ventilation, and water-supply, are receiving constantly increased attention.

The affairs of the Commonwealth are in a satisfactory state, and there is every sign of a healthy and progressing commercial condition.

With regard to manufacturing industries, which are of comparatively vast magnitude in Connecticut, and other matters relating to which directly or indirectly the General Assembly would be called upon to legislate, the Governor in his message deprecated the enactment of any law that might, even remotely, tend to affect them injuriously, saying: "In every county are flourishing towns and villages which have sprung up, each about some thrifty manufacturing establishment. These establishments now number nearly twenty-two hundred, employing, and as a rule profitably employing, over \$60,000,000 of capital, and giving work to upward of sixty-six thousand persons. The value of their annual product is reckoned at \$120,000,000, and their market is the world. Interests so important, and affecting such large classes of our people, should be sedulously protected from any legislation that would embarrass or contract the energy of invention or of capital. Every enactment which could possibly affect them should be carefully scrutinized, to the end that it works no injury."

The finances continue in a satisfactory condition. The conservative method which has been steadily used heretofore is still continued. During the year ended November 30, 1880, the aggregate receipts of the State from all sources, including \$42,146.95 brought over as cash balance from the previous year, were \$2,506,971.18; the aggregate expenditures for all purposes (including \$286,197 interest paid on the State debt) were \$1,600,383.36; leaving in the Treasury, on December 1st, an available surplus of \$906,587.82 to meet current expenses of the year 1881.

The amount drawn from the Treasury on account of the new State House in 1880 was \$118,131.36. This sum includes the \$15,000 appropriated by the last General Assembly as a compensation to the members of the Capitol Commission, who had in charge the building while in course of erection.

The receipts for the year ending November 30, 1881, including the above-noted balance of \$906,587.82, were estimated at \$2,501,461.82; and the expenditures at \$1,459,005.32.

The State debt continues to be as it was at the end of 1879—\$4,967,600. Nearly three fourths of this sum bears interest at the rate of 6 per cent per annum; the remainder at 5 per centum.

Outstanding bonds to the amount of \$887,000 will become due on January 1, 1883, the State having it then in her power either to pay and cancel them, or to continue them, in whole or in part, by a new issue.

The total valuation of taxable property in Connecticut the grand list shows to be \$327,182,435, an increase of \$2,293,412 over the preceding year.

The number of savings banks in the State continues the same—85; but the number of depositors has grown up to 231,913, which is 9,692 greater than it was at the close of the

previous year. Of this increase, 9,408 are depositors of less than \$500. These depositors, compared with the whole population of the State, are in the proportion of more than one in every three of her inhabitants. The present amount of all their deposits is \$76,518,570.91, an increase of \$3,676,127.52 over that of the year last past. The average amount for each depositor is \$357.50, and for every inhabitant in the State it is above \$100. The dividends annually paid by the banks have been withdrawn by depositors to a much less extent this year than in the preceding.

The 28th annual report of the Railroad Commissioners shows the railways operating in Connecticut to have had a prosperous year in 1880, their business having considerably increased in freight as well as passenger transportation. The total of their gross earnings amounted to \$12,290,878.51, which is \$1,378,627.34, or 12½ per cent, above that of 1879. They exceed the gross earnings of all previous years—even of 1873, when the earnings were the largest as compared with those of any preceding or succeeding year till 1880. A noteworthy fact in the mutual relations between the yearly amounts of earnings from passenger and freight transportation in these roads for 1880 was, that the freight earnings, instead of being less than the passenger, as they had always been, exceeded them by more than one million dollars. This change has occurred especially in the business of two among the roads, namely: The New York, New Haven, and Hartford, and the New York and New England. The proportion of expenses to earnings was 62 per cent, a little more than 1 per cent over the previous year's.

Nine companies have paid in dividends last year \$2,539,295.70, or nearly as much as they had paid in 1879.

The aggregate length of all the railway lines in Connecticut measures 953.96 miles; double tracks, 108.78 miles; sidings, 185.94 miles—making a total of 1,248.68 miles of single track.

The collective amount of State tax paid by the roads into the Treasury during the year was \$357,000. In 1879 it was \$346,000.

The education of youth continues satisfactory, with a fair prospect of forward progress in efficiency and thoroughness. The cost to the State for supporting the common schools in 1880 was \$213,420.50, the largest amount among the items of public expenditure after that belonging to the judiciary system, which was \$256,598.93. The results of this large expenditure have for many years been most gratifying; and the reports of the State Board of Education, and of their Secretary, show the combined efficiency and thoroughness of the system of free popular education. The "Compulsory Law," so called, by which children of proper age are made to attend the public schools, has been more efficiently and perfectly enforced this year than ever before. This law seems to be of comparatively easy execu-

tion in Connecticut, meeting with no such marked opposition or complaint, on the part of parents, as experience shows to have been the case in some other States. For this difference between the States concerned, Governor Bigelow accounts as follows: "This shows not only the temper of our people toward education, but also that there does not exist with us that necessity for the earnings of children of school age which supports the defiance of similar laws in other communities."

For the support of the State Normal School, where teachers are trained to give instruction in the common schools, the amount paid from the Treasury in 1880 was \$12,700. A good increase in the number of trained teachers is now promised by the building of a Normal School in New Britain, for the erection of which the General Assembly appropriated \$75,000, the said town having pledged itself to contribute \$25,000 more, of its own money, for the same purpose.

In the Hospital for the Insane, at Middletown, there were 610 patients at the beginning of last year, and 528 at the end of it. The whole number of patients treated during the year was 654, which shows a permanent overcrowding in the hospital, the capacity of which is sufficient to give accommodations for 450 patients only. The additional new buildings, for which the General Assembly at the previous session appropriated a large sum of money, and which, when completed, will probably double the present capacity of the hospital, have been already planned, and their erection has begun. Of the 528 patients remaining in this institution at the close of 1880, two only were paying patients; the Governor stating "that 526 were entirely supported by the State, or by the towns from which they were sent."

The School for Imbeciles, at Lakeville, seems worthy of continuance for its usefulness. The pupils cared for in it during the year numbered 93, of whom 47 were beneficiaries of the State. The total expenditure of the institution for the year amounted to \$15,799.91, of which \$5,960.87 were paid from the public Treasury for the 47 State beneficiaries, and the remainder was paid by the friends of the other pupils. A department connected with this school takes care of several harmless lunatics, some among whom also were supported last year by the State at a cost of \$534.

In the State Reform School for Boys there were, at the close of 1880, 307 inmates; received during the year, 148; discharged, 109. This school is considered to have never been in a better condition than at present. The family system, so called, has been successfully introduced in its management since last year.

The Industrial School for Girls, at Middletown, during the year 1880, received 71 girls; placed in positions of usefulness, or discharged, 53; remaining in the school on December 1st, 160. The whole number of inmates at this

school in the 11 years of its existence is reckoned at 430. Of the girls sent out from it, three fourths are stated to have given evidence of permanent reformation. An additional building is now in process of erection for the older inmates.

In the State Prison there were 261 convicts in confinement on December 1, 1880. At the same date in 1879 they numbered 251; committed during the year, 134; released, 124. Eight among the prisoners were sent from the Penitentiary to the Hospital for the Insane. The prison's management has been for some time progressing from good to better, especially in regard to discipline among the convicts.

The militia of Connecticut, under the name of "National Guard," consists of 2,731 enlisted men and 183 commissioned officers, making a total of 2,914 as the active military force of the State. Last year's expenditures for this force amounted to \$83,609.67. There are also some independent companies, and the Governor's Guard; for both of which a further sum of \$15,021.28 was expended, the aggregate military expenses for the year having been \$103,630.75.

The First Regiment of the Connecticut National Guard, under the lead of its colonel, and the second company of the Governor's Foot Guard, with a military band attached, were detailed to take part at the celebration of the centennial anniversary of the surrender of the English army at Yorktown, Virginia, on October 19th. The Governor himself, accompanied by his staff and the principal military and civic officers of the State, besides other prominent men of Connecticut, attended the ceremonies of the occasion. The Legislature appropriated \$7,000 to meet the expenses of the excursion.

The Legislature was urged to reapportion the senatorial districts of the State without further delay, if the people of Connecticut are to live under what is more than a semblance of a representative form of government. The argument presented to the Legislature was as follows: These districts remain now the same as they were when first formed fifty years ago, although the changes in their respective populations during the lapse of this half century have been so numerous, and so remarkably great, as to render the continuance of the old districts not only unjust, but manifestly contrary to the intention expressed and embodied in their original formation. Among the reasons set forth to evince the imperative necessity of a new apportionment, and some practical instances showing the injustice of the division then existing, were the following: "In the plan of government designed by the Constitution the Senate was intended to be the body of popular representation. The lower and larger House was, for historical reasons, founded upon the existence of townships. It was provided that the basis of representation in the Senate should be adjusted from time to time, as the population of the State changed,

the times for such adjustment being made to correspond with those times when a new census should be taken. Fifty years ago the first apportionment was made under this arrangement, but, notwithstanding the very greatest changes have since taken place, not only in the aggregate population of the State, but especially in the distribution of that population, no Legislature has, at any of the decennial periods intervening, seen fit to change the basis of representation. . . .

"The population of the State by the census of 1880 is 622,683, as against 287,675 in 1830, the census on which the present apportionment is based. . . . The whole character of the population, and of the occupations in which they are engaged, has during this time undergone an entire revolution. Consequently, the centers of population have shifted, and the density of population has altogether changed. Districts which were substantially equal fifty years ago, to-day show a difference of 4 to 1; others have grown so as to present differences of a less degree, yet quite enough to make equality of representation absurd. Six districts, with a combined population of 83,000, balance in the present Senate six other districts having a population of 281,800; while ten districts with a population of 411,700 can be outvoted by eleven districts which have a population of 199,000."

The Legislature subsequently passed an act reapportioning these senatorial districts, and defining their respective limits. The provisions of this act have also been carried into practical execution, the districts numbering now twenty-four, instead of twenty-one, as heretofore. The Democratic papers in the State denounce the manner and character of the new apportionment in the strongest terms, noting it "as the most glaringly dishonest partisan work ever attempted in the United States"; and to make this partisan injustice more clearly apparent, they have published a map of Connecticut representing the dividing lines as well as the different configurations and sizes of the several districts. The Republican papers seem to admit that by the new arrangement of the districts their party secures seventeen, and may possibly get two or three more, out of the twenty-four Senators. The relative populations of the new districts vary from 12,098—the least in the twenty-third—to 62,882—the largest in the eighth. Ten among the districts have populations ranging between twenty and thirty thousand.

The January session of the Connecticut Legislature in 1881 was closed in its fifty-second day, April 14th, when the Governor adjourned the General Assembly *sine die* with the usual formalities. Among the more important acts passed at this session are the following: A new law relating to elections; it is intended for the principal cities in the State, to prevent fraudulent registration. An act reducing the tax on mutual life insurance companies; this

reduction is estimated to diminish the annual State revenue by nearly one hundred thousand dollars. An act had also been passed by both Houses reducing the State tax in general, but it was subsequently rescinded. An act empowering the Railroad Commissioners to regulate the practice of the steam-whistle, so called, with a view to its abatement. An act ordering fire-escapes to be made in all buildings where twelve or more persons are employed for work in one room. An act raising the jurisdiction of the Hartford and Fairfield courts, in civil cases, to one thousand dollars; and the judges' salaries to three thousand a year.

The collective sums appropriated to public institutions by the Connecticut Legislature of 1881 amount to nearly a quarter of a million. Among them, besides the \$75,000 before mentioned for a normal school at New Britain, are \$50,000 for a hospital at Bridgeport, \$12,000 to the Reform School for Boys, and \$10,000 to the Industrial School for Girls.

In the early part of the session, January 18th, the two Houses separately voted for the election of a United States Senator from Connecticut, to occupy the seat of William W. Eaton, whose term was to expire on March 3d; the candidates in competition for that office being Joseph R. Hawley, the Republican nominee, and Mr. Eaton himself, renominated by the Democratic members of the General Assembly. The voting in either House resulted as follows: In the Senate—Hawley 16, Eaton 4, one of the Democratic Senators having been absent; in the House of Representatives—Hawley 161, Eaton 68. Joseph R. Hawley was elected.

At the election for members of the Legislature in November the Republican candidates were returned in far greater numbers than the Democratic. The Senate consisted of 24 members—Republicans 17, Democrats 7; the Lower House of 247 members—Republicans 148, Democrats 99. By these results the Republican majorities, as compared with those of 1880, are reduced—in the Senate from 11 to 10; in the Lower House from 84 to 49; and on joint ballot from 95 to 59.

COSTA RICA (REPÚBLICA DE COSTA RICA). Detailed statements concerning area, territorial division, population, etc., may be found in the "Annual Cyclopædia" for 1877.

The President of the Republic is General Tomás Guardia; the Vice-President is General Pedro Quiroz; and the Cabinet was composed of the following ministers: Interior, Señor S. Lizano; Foreign Affairs, Justice, Public Instruction, and the Poor-Commission, Dr. José María Castro; Finance and Commerce, Señor Salvador Lara; Public Works, Licentiate M. Arguëllo; and War and Marine, General V. Guardia.

The Bishop of San José is the Rt. Rev. Bernardo A. Thiel.

The Costarican Minister Resident in the United States is Señor Peralta; and the Con-

sul-General of Costa Rica at New York is Señor José Muñoz.

The United States Minister (resident in Guatemala, and accredited to the five Central-American republics—Guatemala, Honduras, Nicaragua, Salvador, and Costa Rica) is Dr. Cornelius A. Logan; and the United States Consul at San José, Mr. A. Morrell. The transfer of Consul-General Hall from Havana to Central America, as Minister Plenipotentiary from the United States, has been spoken of.

In the absence of later official returns relating to finance, commerce, etc., than those given in our volume for 1880, the following extract from a letter addressed by a Costarican bondholder to a London journal, in August, 1881, will be found interesting, as it contains a summary of financial, agricultural, and railway matters for that year:

Under the heading of "Trade and Finance," in your last issue, a paragraph is assigned to the President and the railway of Costa Rica, and, while you refer to rumors that the former is endeavoring to raise money irrespective of the bondholders, you justly add that the latter is distinctly pledged to them. Regarding the railway, therefore, as the property of the holders of the loan, it might be well briefly to examine into the value of that property, should they be able to get it into their own hands. From Port Limon on the Atlantic, seventy miles of narrow-gauge line have been constructed, and now reach the Rio Sucio. From this point to the capital, San José, twenty-six miles have still to be made, and of these eighteen are over uneven and difficult ground. Up to the present time \$17,000,000 have been expended on the railway, and it is estimated that \$2,000,000 more will be required to complete it, so that the total cost will amount to \$19,000,000. The commerce and agriculture of the whole republic are confined to four provinces, those of San José, Cartage, Heredia, and Alajuela, which together cover an area of only eight square leagues. They have no means of exporting their produce, or of introducing imports, except through Punta Arenas, on the Pacific coast; and the cost of carriage to and from that point, ranging from a minimum of \$20 per ton to a maximum of \$40, according to the season, sometimes exceeds the whole freight by sea to Europe, even by the expensive route of Panama. The imports and exports make together a very considerable tonnage, which, if brought over the line when completed, would form an item of importance in the traffic returns. From Europe the imports consist of cloths, iron, provisions, machinery, etc., and amount to 20,000 tons per annum; and from the United States 2,500 tons of corn, etc., are annually introduced. The coffee exported reaches 10,000 tons, and leather and other items 1,000. Consequently we have a grand total of imports and exports amounting to 33,500 tons, all of which will have to pass over the whole length of line, to or from the consuming and producing provinces already mentioned. The cost of freight per ton, *via* Cape Horn from Europe to San José, including the land-passage from Punta Arenas, is at least £7 (\$35), and *via* Panama £10 (\$50); consequently, considering the time that is lost by the former route, and the double transshipment by the latter, a charge of £8 10s. (\$42.50) per ton from San José to Europe *via* Port Limon would be extremely reasonable to the producer and consumer, and, allowing 30s. (\$7.50) per ton for the Atlantic voyage, we have £7 (\$35) per ton for railway freight from San José to Port Limon. At this rate the line would give upward of 5½ per cent on the whole capital, and I have not taken into account the enormous timber-trade that must be opened up as soon as there is any possibility of bringing it to the sea-shore, nor have I made any allowance for any passenger traffic and other

items, as against any results from these sources I should have to put the expenses of maintenance. These brief details may, however, serve to show my fellow bondholders that, in the railway of Costa Rica, there is a basis on which to found some hope for improvement in the value of the bonds they hold; and, as I am informed that President Guardia will be in London in the course of a few days, and that he holds full powers not only to negotiate, but to accept an arrangement, subject only to the confirmation of Congress, I am strongly of opinion that the bondholders should not lose the present opportunity, but should at once take energetic action. I do not fear that any negotiation can be concluded irrespective of the bondholders, for in Paris and Amsterdam there are also many persons who have invested in the loans, and who would not permit any new advances to the Government of Costa Rica unless their prior claims were recognized.

In the article *COLOMBIA*, in the present volume, will be found mention of a treaty between that republic and Costa Rica, to procure European arbitration upon the question of the ownership of the disputed territory on the isthmus.

COTTON. The extraordinary increase which has taken place in the yield of cotton in the United States (see statistics in *COMMERCE AND FINANCE, AMERICAN, IN 1881*) is insignificant in comparison to the capabilities of the country for expanding the production of this staple. The United States produces now just about four fifths of the cotton grown in the world, and the product of the other countries, notably of India and Egypt, the largest producers, is rather diminishing than increasing at present. For the last six years the average cotton crop has been 5,000,000 bales; in 1880-'81 it exceeded 6,500,000 bales. Yet, out of every hundred acres capable of producing cotton not more than two or three have been under cultivation; and the yield per acre is not half as great in quantity, and very much inferior in quality, to what it might be made. In 1879-'80 the cotton acreage was 14,441,993 acres; the yield was 5,737,257 bales, or an average of four bales of 475 pounds to ten acres. Under careful cultivation a bale an acre is commonly obtained, and two bales are often grown. The fertile Yazoo bottom in Mississippi yields, with the present imperfect cultivation and incomplete picking, three bales to every four acres. There are 3,000,000 acres of land in the same district which could be reclaimed by simply excluding the Mississippi overflows. This would increase the product of the Yazoo flats to 2,250,000 bales, which might be more than doubled by improved cultivation, and the State of Mississippi could produce on this tract and on the uplands as much as the entire crop of the United States. Texas is capable, when its entire cotton area is utilized to the best advantage, of producing ten times the present crop of the whole country.

A slight lowering of the cost has always the effect of increasing the consumptive demand for this universally desired commodity in an extraordinary degree. The consumptive ca-

capacity of the world could at a reasonable calculation be many times multiplied through the economies in production which can be obtained from improved methods and appliances that are already known. As a means of calling the attention of cotton-growers to improved methods in the cultivation and handling of cotton, Edward Atkinson, a statistician and expert associated with manufacturing industries in New England, suggested, through the medium of the press in 1880, the plan of holding a special Cotton Exhibition, in which all the products and materials of the cotton industry, and all the mechanical appliances employed from the planting of the seed to the turning out of the finished web at the mill, could be inspected and compared. Atkinson had primarily in mind the demonstration to the Southern growers of the advantage of more thoroughly cleaning the raw fiber before packing it for sale to the manufacturers and exporters, and proposed that the exhibition should be held in Atlanta in 1881. The business men of Georgia and other Southern States caught at the suggestion, wishing to show the advantages of the South as a cotton-manufacturing locality, which had been proved by the success of recently established factories, and to attract the attention of capitalists to the manifold other industrial capabilities of their section. (See *EXPOSITION* at Atlanta.)

The need of some efficient mechanical device for the rapid gathering of cotton is urgently felt. The crop is nearly every year in danger, and frequently seriously damaged, while there is a constant waste of enormous aggregate amount, through lack of good harvesting machinery. The various cotton-pickers which have been invented may none of them be superior to hand-picking, since none has yet supplanted the primitive method. For the assistance of the laborer in sustaining the awkward position while picking, a pair of staves, fastened to the legs and holding a belt under the body, is a patented device which is sometimes used. A mechanical hand-picker has been invented, consisting of a rotating spindle which is kept moist, and winds the lint out of the boll, the spindle being turned by means of a crank. Another device is an endless toothed chain, driven by a sprocket-wheel and crank, with an appliance for stripping the cotton off the barbs into a basket. A simple hand-picker which has been lately patented consists of gloves with wire hooks, worn on both hands, and a brush at the waist to rub off the cotton into a bag below. An older and more complex device is a reciprocating tongue provided with barbs which detaches the cotton from the boll, the agitation of the tongue moving the cotton gradually up through an oblong box by the aid of an elastic plate provided with spines, depositing it at the end in a bag. A pneumatic tube connected with an exhaust pump or fan has been tried, the hose being applied to the bolls by hand. An electric cotton-picker was

patented in 1870: two endless rubber belts, electrically excited by friction, move vertically upward on each side of the row, and as the machine is driven along, the plants are violently agitated by mechanical means; the cotton which is shaken from the bolls adheres to the rubber bands, and is conveyed to a receptacle at the top of the machine. A pneumatic picker working automatically contains a horizontal fan which is actuated by the wheels on which the machine is drawn, the cotton being disengaged by a series of curved hoops inclosed within a hood and conveyed by the current of air into a wire-cloth receiver where the air finds exit. The stalks of the cotton-plant are cut, and the cotton beaten out into a wagon-box upon a grating of transverse wires, according to the method of a Louisiana inventor. An elaborate picker, patented in 1872, is a long cylinder covered with bristles, which revolves by the aid of one of the supporting wheels, and extracts the ripe cotton from the bolls, which are bent over to the brush by a reel in front; a cleaning cylinder removes the lint from the bristles and deposits it in the receptacle behind. A similar method has been recently patented, in which vertically revolving brushes, in contact with cleaning-combs, are arranged in two pairs, one pair of brushes working on each side of the cotton-row. Another mechanical harvester contains a series of barbed flexible rods which work up and down alternately among the cotton-plants, each in its ascent stripping the cotton from the descending ones, which is taken from the tops of the vibrating arms by endless bands.

The prevention of the ravages of the cotton-worm has never been attempted with any success until within the last ten years. Statistical inquiries show that the annual loss to the country from this pest between the years 1865 and 1879 has been \$15,000,000, while in some years it has amounted to double that sum. The natural history of the cotton-worm was explained at the Atlanta Exhibition by Professor C. V. Riley. The worm feeds on the under side of the leaves, and is seldom observed in the earlier part of the season, though its presence is detected by skilled eyes from yellowish and semi-transparent blotches on the leaves. It makes its chrysalis usually in a piece of rolled-up leaf. The moth, which is nocturnal in its habits, deposits its eggs on the under side of the lowest and largest leaves. The eggs are .6 millimetre wide, and are not easily detected, being of nearly the color of the leaf. The period of the phases of a generation varies according to temperature. The average time, taking the whole season together, is about one month. There are thus seven or more generations developed each season in the Gulf district. The first worms appear in the southern portion of the cotton belt between the middle of April and the middle of May. The cotton-worm is exceedingly prolific, the moth being capable of laying 600 or 700 eggs. The

worm is not present in destructive numbers before the third generation. The notion that it suddenly appears in midsummer is therefore natural. The insect hibernates only in the southern part of the cotton-region, and its extension north must proceed every season from thence. Staining and fragments of leaf in the cotton, impurities the most difficult to remove, are caused by the gnawing of the cotton-worm.

The first effectual method of destroying the cotton-worm was recommended by Professor Riley, Entomologist to the Department of Agriculture at Washington, in 1873. This was the use of Paris-green. Appliances for the application of this and similar arsenical preparations were introduced in great variety between 1875 and 1878. They all had for their object the throwing of the poisons, finely divided in solutions or powders, over the plants broadcast. The subject of the prevention of the cotton-worm's depredations was made, in 1878, the subject of a special investigation by the Agricultural Bureau. The method of spreading the poison from below was found preferable. The dry powder is more efficacious in wet weather, but the wet method is ordinarily more expeditious and less dangerous. The cost of appliances for the wet method is greater. The punctured sprinklers and gauze sifters have been abandoned, as no means could be devised for keeping them from clogging. Slit-nozzle sprinklers, which project the fluid in a fan-like sheet, that breaks up into a spray, are made with the fissures cut in different curves and angles to produce different kinds of jets. These are excellent where large sprays for broadcast sprinkling are desired. For obtaining small sprays for poisoning cotton from beneath, a form of nozzle has been devised in which the fluid is let into the nozzle-chamber at a tangent, causing a rapid whirling of the fluid against the inner surface and its slit; this washes away the particles which would otherwise accumulate and clog up the passage. Lip-nozzles spread the fluid in a shower by dashing the stream against an inclined surface. These may produce a jet in one sheet, or reflected in two or more planes, or spreading in a funnel-shaped spray. Rotary nozzles revolve by the force of the jet, causing a spiral movement of the fluid, which breaks it up into a spray. Rifling of a tubular nozzle produces the same effect. A form of rotary sprinkler, called the cyclone nozzle, is well adapted for under-sprinkling, as it produces the finest kind of spray; the round-nozzle chamber has a tangential inlet, and, at right angles to this, a central circular outlet.

There are four classes of machines for spreading poison—brush-throwers, rotary fan blowers, bellows-blowers, and squirting-machines. The latter is the most valuable form. Force-pumps have been tried, but they have been found too expensive for ordinary use. A device, called the automatic sprinkler, does away with the necessity of pumps. The barrel of

poison is elevated very high in the air, and the dust is released in such a manner as to spread it in an even shower. Gas-pressure has been successfully used to distribute poison. One of the best machines forces the liquid through a system of branching tubes ending in a trailing flexible fork which sprinkles two rows from underneath. With \$10 or \$15 outlay for machinery, and less than five cents per acre for material, and with the labor of one man and a team, 150 acres of cotton can be effectually poisoned in one day.

The only vegetable poison which has proved a protection against the cotton-worm is pyrethrum. The cultivation of the plants that furnish this powder, which is so remarkably deadly to insects without being harmful to other life, the Department of Agriculture is seeking to introduce in the United States.

The business-men of the South look forward with confidence to a rapid development of cotton manufacture in the Southern States, and the transfer to that section of the business of New England and of Great Britain to a considerable extent. Water-power is found in ample quantities throughout large portions of the cotton-region. The grounds on which they base their belief that cotton-milling will grow in their section, at the expense of the present great centers of the industry, where the investment of vast amounts of capital has apparently fixed it for ever, are that the entire cost of packing and of transport can be saved and added to the profits of the Southern manufacturer. The cotton is also said to be better and more easily worked before being compressed in bales; and the climate of the South, as compared with that of the Northern States, is said to be more favorable to the manufacture, which requires no artificial moisture, and is, hence, more healthful for the operatives. The difference in the cost of material to the Southern and the Northern manufacturer is estimated as follows on each bale: bagging and ties, \$1; ginning and baling, \$3; storage and insurance, 75 cents; drayage, 20 cents; sampling of two pounds, 20 cents; compressing, 75 cents; commissions and brokerage, \$2; freight to New England, and insurance,

\$5; loss by stealing, dirt, storms, careless handling, etc., \$3—in all, \$14.90. This is equivalent to 1½ cent a pound. The charges for baling, transportation, and the services of middle-men, paid by Northern and British manufacturers on their takings from the crop of 1879, amounted to not less than \$100,000,000, or 40 per cent of the total receipts of the planters for the crop.

The average cost of water-power in the Southern States is \$6 per horse-power per annum; while the steam-power used in some of the large New England mills costs \$12. The Southern streams never freeze, and are seldom affected by drought to any material extent. The humidity of the Southern climate is almost constant, and the hygrometric condition most favorable to cotton manufacture prevails winter and summer, the range rarely passing the limits of 65° and 70°.

CYPRUS. This island, in respect to size, occupies the third rank among her Mediterranean sisters, and comes after Sicily and Sardinia. Its length is about 140 miles; its total surface is estimated at 4,000 square miles. It is crossed, lengthwise, by two chains of mountains: the northern one follows the sea-shore, fronting Caramania (the old Cilicia); the other includes, in the north, the group of Olympus or Troodos Mountains (6,621 feet of elevation). Two plains; Morpha and Messaria, extend between those two chains; the latter, watered by the Pidas, is very fertile. In the beginning of the Christian era the population of the island amounted to 1,000,000 inhabitants. This number is now considerably reduced; and, although, for want of a correct census, exactness is out of the question, yet it is deemed quite safe to affirm that it does not exceed 170,000 inhabitants, viz.:

Greeks.....	111,900
Mussulmans.....	55,000
Maronites.....	1,600
Armenians.....	300
Catholics.....	1,200

Total..... 170,000

The principal cities are Lefkosia, 20,000 inhabitants; Larnaka, 9,000; Limasol, 7,000; and Famagusta, 6,000.

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DAKOTA. The area of this Territory, according to the latest estimate of the United States Government officials, is 150,932 square miles. The previous estimate was 148,932 square miles. The population of the Territory was 4,837 in 1860, and 14,181 in 1870. By the census of 1880 it is 135,180.

The Territory lies north of Nebraska and west of Minnesota and Iowa. It was organized in 1861, and the first Legislature was convened in 1862. It is divided into ninety-five counties, of which only a part are organized.

The capital of the Territory is Yankton, and the Governor is Nehemiah G. Ordway. The delegate in the United States Congress is Richard F. Pettigrew, a Republican. At his election the vote was: Pettigrew, 18,909; McCormick, Democrat, 9,182.

The state of agriculture in some of the counties shows a very rapid improvement. In Cass County is the famous Red River. The population is about 12,000, and nearly all the land of the county has been taken up. It is sold at from five to fifteen dollars per acre. About

120,000 acres were under cultivation in 1881, of which 100,000 contained wheat. In the next year it was expected that the wheat-land would increase to 150,000 acres and the crop to 3,000,000 bushels.

The county north of Cass is Traill, and the county south Richland. Traill County has a population of 6,000 and Richland 3,300. A large quantity of railroad and Government land is in these counties and yet remains unsettled. It is good farming land, and for sale cheap. Goose Creek, Elm, Rush, Maple, Cheyenne, and Wild Rivers flow through this county, and it also has Red River on the east. The Cheyenne is the largest, and empties into Red River. It is one hundred and seventy-five miles long, and flows east for one hundred miles through a good country. Devil's Lake also empties a large body of water into the Cheyenne, which then flows southward ninety-six miles, cutting Barnes County in halves. The valley of the Cheyenne is narrow and picturesque, and very fertile. Its water-powers are unsurpassed.

Barnes County is less than five years old, but it already has a population of 3,000 inhabitants. In 1877, 3,000 acres were cultivated; in 1879, 27,000; and in 1880, 40,000. The land is good and very cheap. It is rolling prairie, the undulations at times rising into hills. This county is well timbered with oak, elm, and ash. Along the rivers are fine meadows, and the soil of the uplands is composed of black loam. North of Barnes County is Foster County, and on the south Ransom County. These are represented as being good counties. Near the center of Barnes lies the shire-town, Valley City, in the Cheyenne Valley. It is a pretty town, and is surrounded by a lovely and fertile country. The river flows by the town, and its banks are covered with a growth of oaks, elms, cherry, and box-elder trees. The town already has several hundred inhabitants, although it was only commenced in 1878. There are twenty-five business firms, mills, school-houses, hotels, a bank, and one fine brick block. There are quite a number of handsome private residences, and altogether the town may be said to have a promising future before it.

Adjoining Barnes is Stutsman County. This county has 1,300,000 acres of good land, consisting of prairie, meadow, and bottom lands. The land is subject to entry by pre-emption, as tree-claims and homesteads.

The James River divides Stutsman in twain, and with its tributaries waters the county amply. The James is a noble stream, flows through five hundred and twenty-five miles of country, and is estimated to be one thousand miles long. A steamer has been placed on it, and a company organized for its improvement and navigation. James Town is the county-seat of Stutsman, and is located on the James River, at a beautiful spot where the valley widens, and is surrounded by fertile knolls rising in terraces. The town has obtained a

fine start; has a bank, hotels, handsome courthouse, and many neat and attractive dwellings. Stutsman is one of the best grazing counties in Dakota, and cattle and sheep raising are carried on as one of its regular businesses. The railroad lands are sold at from \$2.50 to \$5 per acre.

Kidder County is west of Stutsman, and contains 900,000 acres of land, most of which is extremely fertile. It is on the line of the Northern Pacific Railroad, and of easy access to settlers. About 2,000 acres are under cultivation, and yield well. Wheat-raising in this county will be one of the great businesses of its future, and the flouring-mills at Bismarek furnish a good market.

Burleigh County lies west of Kidder, and borders on the Missouri River. It contains 1,843,000 acres of good land, and is well settled. Bismarek is the shire-town, and for a long time has been known as the terminus of the Northern Pacific Railroad. It contains about 3,000 inhabitants, and is now a commercial center. It has both railway and river transportation, and no less than forty steamers ply from this town, up and down the Missouri, to the settlements and military posts along its banks. Heavy freights are carried over the Northern Pacific east, and it has a stage transportation company running to the Black Hills.

The country around Bismarek is beautiful and fertile, and there are some fine farms. Wheat, oats, and corn are grown, and the land produces well. Of wheat, 25 bushels per acre were raised last year; oats, 50 bushels per acre; corn, 105 bushels. On some land 150 to 300 bushels of potatoes grew, and all the vegetables are abundant and of remarkably fine flavor. The wheat is of superior quality and makes good flour. Timber in this county is quite plentiful, and coal is near at hand, large beds of it having been found in the adjoining county, on the line of the Northern Pacific road.

Crossing the Missouri River at Bismarek, one enters the "Great American Desert." The first evidence of the sterility of this country is the smart little town of Mandan, containing 500 inhabitants. It is located on the bank of the beautiful Heart River, at its junction with the Missouri, and is surrounded on three sides by a rich agricultural region. More than fifty farms are bearing crops, and scores of new ones are being opened up. A broad plateau, surrounded by hills, lies back of Mandan, and the scenery is beautiful. Looking up the Heart River, a prospect meets the eye that reminds one of anything else than a desert. Hundreds of cattle are seen grazing on the hills. The groves of timber along the stream afford the cattle all the shelter they need, even in the coldest of weather, and not a mouthful of hay need be cut for feed. Numerous small streams empty into the Heart River, watering the country well. The Northern Pacific Railroad

runs along Heart River to the Little Missouri. Sweetbrier Creek is an open, pretty valley. The Badger Valley is rich and attractive, and, on reaching the "summit," the highest point attained by the railroad on this division, a splendid stretch of fertile prairie appears.

From the Little Missouri west to the Yellowstone, after crossing the narrow belt of bad lands, the country is fertile and well watered by many streams. Lignite coal abounds, and mines are now in successful operation. The best building-stones can be procured from the bluffs, and the clays afford excellent material for making brick. The Government owns every alternate section of these lands, and they are open to settlement by pre-emption, homestead, and tree claims.

One of the best large farms in Dakota is Mr. Dalrymple's. It consists of 75,000 acres, and cost from 40 cents to \$5 per acre five years ago. The taxes are ten cents per acre per annum for school, road, and county purposes. There is no government tax. The farm is laid off into 5,000-acre tracts, with a superintendent over each division. He has a foreman and a gang-foreman under him. The superintendent subdivides his 5,000 acres into 250-acre lots, and these also have foremen. All the business is conducted on regular vouchers, and all supplies are drawn on requisitions, the same as in the army. The division foreman gives all orders. Money is paid on time-checks, and each workman receives his money whenever he wants it. Mr. Dalrymple is cultivating 25,000 acres, and 5,000 acres are being added each year. The crops are sowed in April, and about three weeks are taken for the planting season. Wheat of the Scotch Fife variety is planted, and one bushel and twenty quarts is sown per acre. All the planting is done by machinery. It takes 400 head of horses and mules to plant the crop. One seed-sower plants about two hundred acres, and each harrower drags about one hundred.

The new land is broken after the crop is in, and the breaking is generally commenced early in May. The land produces No. 1 hard Fife wheat, and the yield is twenty to twenty-four bushels per acre.

The cutting of the crop commences August 1st, and 115 automatic binders and harvesters are used. Of these, 100 are Wood's patent and 15 McCormack's. The sheaves are bound with wire. The thrashing-machines used are twenty-one in number. The crop is cut in twelve days, and about one thousand bushels per day are thrashed on each thrasher. The thrashers take a gang of twenty-five men and twenty horses for each to haul wheat to the machines and then haul it to the cars. No stacking is done on the farm. As many as fifty cars per day are loaded with wheat at this farm, the average per car being 400 bushels. An expert on horseback attends each two harvesters when they are at work.

The seed-wheat is taken from the new land,

and all the surplus grain is put into market immediately after harvest. The first yield of wheat from the land is usually the best; the average weight of wheat raised on this farm is fifty-nine pounds. The workmen on the farms are mostly Swedes, Danes, and Germans. In the spring months they are paid \$18 per month and board, during the cutting season \$2.25 per day and board, during the thrashing season \$2 per day and board, and in the fall \$25 per month and board. In winter only one man for each forty head of horses is retained in service, and he is paid \$30 per month.

The cost of living in the Northwest is not much, if any, greater than in the East. The following is the Fargo market on the line of the Northern Pacific Railroad:

Beef, $7\frac{1}{2}$ cents per pound; mutton, 7 cents; pork, 6 cents; milk, per quart, 5 cents; hams, $10\frac{1}{2}$ cents per pound; salt pork, 200 pounds for \$12.50; venison, 8 cents; turkeys and chickens, 12 cents; fresh fish from Lake Superior, 6 cents; lard, $8\frac{1}{2}$ cents; eggs, per dozen, 20 cents; butter, per pound, 25 cents; potatoes, per bushel, 60 cents; onions, per bushel, 60 cents; beans, per bushel, \$2.25; corn, per bushel, 56 cents; oats, per bushel, 50 cents; wheat, per bushel, \$1; groceries, dry goods, hardware, and lime, about the same as Eastern prices; work-horses, per head, \$150; driving-horses, \$175; common "plugs," \$50; mules, \$150 per head; bronchos, \$60; ponies, \$10 to \$30; oxen, per yoke, good, \$125; common, \$80; milch-cows, \$25 to \$35 per head; beef-cattle, on the hoof, $2\frac{1}{2}$ to 3 cents per pound.

DAVIES, HENRY E., born at Black Lake, near Ogdensburg, New York, February 8, 1805; died in New York city December 17, 1881. Descended from a well-known and highly respected family of Connecticut, he was bred on his father's farm, and until his fourteenth year attended a common school. Then, in conformity with a custom of those days, he went to live in the family of a lawyer, under whose direction he could pursue at the same time a collegiate and a legal course of study. His preceptor was Alfred Conkling, afterward Judge of the United States Court for the Northern District of New York. Young Davies was admitted to the bar in 1826 at the general term held in Utica, and began his practice in Buffalo, where he soon became prominent in politics as a Whig. In 1830 he removed to New York, and shortly afterward formed a partnership with ex-Judge Samuel A. Foote, which lasted for seventeen years. In 1848 this partnership was dissolved, and Mr. Davies, who had accumulated a large practice and high reputation, entered into a partnership with ex-Judge William Kent, a son of Chancellor Kent. In 1835 Mr. Davies married a daughter of John Tappan, of Boston, whose brothers, Lewis and Arthur, were famous abolitionists. About 1840 he served as alderman for the Fifteenth Ward, in which he resided, and in 1850 was chosen Corporation Counsel by the Common Council.

In the fall of 1855 Mr. Davies ran for Justice of the Supreme Court, to succeed Robert H. Morris, deceased, and was opposed by Edward P. Crowley and Henry Hilton. No notice of a vacancy having been filed with the sheriff by the Secretary of State, a question arose which was very similar to that in reference to Richard O'Gorman and the Superior Court. It was decided by litigation in favor of Mr. Davies, who had been elected by the popular vote. In the summer of 1855 Judge Davies accompanied ex-President Fillmore to Europe, having been the intimate friend and confidential adviser of the latter during his term of office as Chief Magistrate. In the autumn of 1859 Judge Davies was elected to the Court of Appeals, where he served from January 1, 1860, to 1869, being the Chief-Justice for several years. He then entered into partnership with Judge Noah Davis, with whom he practiced until the latter was elevated to the bench. After that time Judge Davies was conspicuous only in his practice as counsel and trustee of the Mutual Life Insurance Company, receiver of the Erie Railway, counsel for the American Exchange Bank, and member of the commission to determine the advisability of constructing an underground railroad in Broadway. The day before his last illness he sat for many hours listening to testimony on that subject. Of late years he took no part in politics. He served often as referee or chamber-counsel in important legal cases. Two celebrated murder cases were before him while he was Chief-Justice—those of Cancerni and Burdell—the former being remarkable because a trial had proceeded by consent of both sides with only eleven jurors, and on this account the verdict had been set aside. Judge Davies was distinguished for integrity, energy, and industry, as well as for his mental vigor and strength of will.

DELAWARE. The Legislature of this State opened its biennial session on January 4th. As presiding officers of the two Houses, both called "Speakers" in Delaware, C. F. Rust was elected in the Senate on a vote of 7 in 9, and Reynear Williams in the House of Representatives, by a vote of 13 in 21; his competitors, Edward G. Bradford, Jr., and John Pilling, having received 6 and 1 respectively, one vote recorded as blank.

For the State finances and public indebtedness, see "Annual Cyclopædia," 1880. A recommendation made by the Governor to refund the State debt in its entirety by the conversion of all outstanding bonds into new ones, payable in twenty years, and bearing interest at the rate of four instead of six per cent per annum, was acted upon by the General Assembly, and a law passed for that purpose. Its main provisions are that the bonded debt (\$847,000) be refunded in \$1,000 four-per-cent bonds; and that the whole loan be disposed of to the highest bidder.

In the matter relating to the four national banks which do business in Delaware, but re-

fused to pay the State taxes assessed on the shares of their capital stock, and informed the State Treasurer of their reasons for such refusal, the Governor urged the Legislature to determine the question by instructing the Treasurer to commence suits against them in accordance with the Attorney-General's opinion transmitted to them with the Treasurer's report. A joint resolution was therefore passed by both Houses, appointing a special committee "on arrears of national banks."

The system in Delaware which gives no salary to county officers, but compensates them for their services with the legal fees paid by the parties with whom they may have official business, is regarded as unjust to the public servants, "because they are compelled to render a considerable gratuitous service," and the fees prescribed by statute, in many instances, are never paid by the parties liable therefor. This result caused complaint and dissatisfaction on the part of the officers concerned; and, as a remedy of the evil, it was proposed to pass a law authorizing the payment of such officers, as far as practicable, by annual salaries, payable monthly, commensurate with the labor performed, in lieu of the fees pertaining to such offices; the fees now by law taxable by such officers to be by them taxed and received as heretofore, and paid to the State Treasurer—such law to take effect as the terms of the present incumbents expire.

The public schools in some of the rural districts being usually closed earlier in the year than elsewhere, apparently from lack of means to keep them open for a longer time, a consolidation of those districts was proposed, and also that an amount of money should be annually levied, sufficient to keep the schools of each district in operation during eight months' time. The Legislature provided for this by enactment of a law entitled "An act supplementary to the existing law in relation to free schools." It directs the Governor to appoint, in addition to the Superintendent of the Public Schools, an Assistant Superintendent, the term of his office being one year; and fixes his annual salary at \$800; that of the Superintendent at \$1,500. It provides also for the establishment of a State Board of Education, which is to consist of the Secretary of State, the President of the Delaware College, and the Superintendent of Public Instruction. The act further provides that, besides the sums voted by the people of each school district for the support of their respective schools, taxes for each school district in the three counties of the State shall be levied and collected annually in the month of April, and distributed among the school districts in the proportional sums of \$160 for each district in New Castle County, of \$125 in Kent County, and of \$60 in Sussex County.

The Governor called the attention of the Legislature to "the open and unblushing bribery and intimidation alleged to have been

practiced at the recent elections in this State"; pointed out the effects which such practices must necessarily produce, if not put down; and concludes with these words: "I desire most earnestly to recommend that you take into consideration the necessity of adopting such measures as will prevent the repetition of such offenses against the purity and freedom of the ballot." The General Assembly then enacted a law, entitled "An act to secure free elections." It imposes a penalty of from \$500 to \$1,000 fine on any person, firm, or corporation that shall endeavor to influence, by bribery, threats, or intimidation, the vote of an employé; and empowers the employé, in addition, to bring suit against his employer for the payment to him, as in an action for debt, of \$500. It provides further that, if the employer be an actual person, he shall be liable also to one year's imprisonment. The act of any officer of a corporation, acting for the corporation, shall be considered the act of the corporation itself; but such officer shall also be individually liable.

A special joint committee was appointed by the two Houses "to examine the State Library," which committee performed its duty, and reported a joint resolution, authorizing the State Librarian to cause all necessary shelving for books to be erected; requiring him to compile a catalogue, and have it printed for the usual distributions; and empowering him to draw on the State Treasurer for \$500 to pay the expenses of its publication.

The session of 1881 closed on April 9th. Of the ninety-eight days of its continuance, about sixty-five were employed in actual work. Among the acts and joint resolutions of a general character passed at this session are the following:

An act "for the preservation of the public health." It authorizes the establishment of local boards of health in all the towns and villages of the State, and defines their duties.—"To provide for the registration of marriages, births, and deaths in the State of Delaware."—"To provide for the better security of life and property in case of fire." It imposes on the owners of hotels, factories, school-houses, and other public buildings, the duty of providing them with suitable fire-escapes.—"To exempt sewing-machines of seamstresses and private families from execution, attachment-process, and from distress for rent."—"To provide a uniform ballot for election-officers." It prescribes that the ballots shall be printed on paper-pieces six inches long and three inches wide; the paper to be furnished by the Secretary of State. The ballots are to be without any distinguishing marks of any character, except the name of the party printed on the inside. No ballot is to be counted which does not conform to these provisions.—"To prevent political parades in the night-time in this State." It imposes fines, ranging between five and twenty dollars, on every person tak-

ing part in any political torch-light parades, "marching through any public road, or street, in this State, in the night-time."—"To provide for the better analysis of fertilizers, and for the proper stamping of every package sold in this State."—"To create the office of a State Commissioner on Fish and Fisheries, and to provide for his compensation." The act authorizes the Governor to appoint such commissioner; defines the commissioner's duty to be to receive fish and spawn, and distribute them into places where they are needed; fixes the term of his office at two years, and the compensation for his services at two dollars for every day actually employed in the performance of official duties, besides the reimbursement of his expenses.—An act relating to the militia of the State, "in amendment to chapter xv of the Revised Code." The act appropriates \$1,200 annually for the support of the organized militia; empowers the Adjutant-General to sell all useless arms and accoutrements, and distribute the proceeds among the several militia companies *pro rata*; and fixes the salary of the Adjutant-General at \$200 a year. The act determines also the Governor's staff.

The following joint resolution in relation to the Irish troubles was unanimously adopted by the House of Representatives on March 3d, and concurred in by the Senate:

Resolved, by the Senate and House of Representatives of Delaware in General Assembly met, That the people of Ireland, oppressed by the misgovernment of rulers, and excited by the selfish appeals of domestic agitators, are entitled to the sympathy of mankind; and this General Assembly tenders to them the assurance of their sincere regard, and the expression of their earnest wish that such settlement of their difficulties may be had as will secure their highest and most enduring prosperity.

By the *viva voce* vote, separately taken in the two Houses on January 18th, Mr. Bayard was re-elected United States Senator, the votes having stood as follows: In the Senate—Bayard 8, Higgins 1; in the House of Representatives—Bayard 14, Higgins 7.

The office of a State Commissioner on Insurance has been established in Delaware, and it was organized for practical operations on July 1, 1879, under the provisions of a special law passed March 24th of that year. The first report submitted by this officer to the Legislature, in February, 1881, shows the number of insurance companies doing business in the State in 1879 to have been 53; namely, 6 home companies, 27 fire and marine insurance companies of other States, 17 foreign fire-insurance companies; 2 life-insurance companies, and 1 life and accident insurance company. During the year ending January 31, 1881, these corporations numbered 67, classified as follows: Six insurance companies chartered under the laws of the State, one of them being a joint-stock company, and 5 mutual fire-insurance companies; 32 fire and fire-marine insurance companies of other States, 20 foreign fire-insurance companies, 8 life-insurance companies of other

States, 1 life and accident insurance company. The amount received directly for taxes by the State Treasurer from the fire-insurance companies was \$375 in 1879, and \$300 in 1880, making a total of \$675 for the two years.

The following is a comparative statement of the condition of schools in Delaware at the end of 1878 and 1880:

SCHOOLS.	1880.	1878.
Number of schools in the State...	512	507
Number of white children of school age (five to twenty-one years)...	31,505	
Number of colored children of school age	3,954	
Total amount of State appropriations and contributions.....	\$177,651 89	\$216,589 65
Decrease in 1880.....	\$38,837 76	
Cost of public education <i>per caput</i>	\$6 39	\$7 72
Number of white children attending school	25,053	23,830
Number of colored children attending school	2,216	1,663
Average number of population of school age to each school.....	60	88
Average number enrolled in each school.....	49	58
Number of teachers employed:		
Male.....	248	402
Female.....	175	
Whole number of teachers employed, including the city of Wilmington.....	536	518
Average monthly salary paid to teachers:		
Male.....	\$30 88	\$30 16
Female.....	\$24 79	\$24 71
Number of schools visited.....	263	264

The aggregate value of school property in the State for 1880 is set down at \$440,733, made up as follows: School-houses, \$331,260; school-grounds, \$75,669; school furniture, \$33,804.

For the benefit of colored children of school age, the Legislature of 1881 has enacted a law "supplementary to the existing act to encourage the education of the colored people." It appropriates \$2,400 of State money (\$800 to each of the three counties) annually, to be paid in October to the Treasurer of the Delaware Association for the Improvement of the Colored People, and to be distributed by him in proportional sums among such colored schools in the several counties as have been kept open for at least three months in the year, and have been attended by at least twenty scholars each. The school-taxes paid by the colored people are to be expended within the hundreds in which they are raised.

To provide for a participation of the Delaware militia and State officials in the celebration of the centennial anniversary of the surrender of the English army at Yorktown, Virginia, on October 19, 1781, the following preambles and resolution were passed by the two Houses of the General Assembly of 1881:

Whereas, At a meeting of the Governors of the thirteen original States, held in the city of Philadelphia, in 1879, in the old Independence Hall, it was determined to celebrate the surrender of Cornwallis at Yorktown; and

Whereas, It is an event in which the people of Delaware feel a profound interest on account of the significance of the result, achieved by the patience,

endurance, courage, and patriotism of our colonial ancestors; and

Whereas, It is proper that the remembrance of the hardships and perils incident to the Revolutionary struggle should be preserved: therefore, be it

Resolved, That the Governor be and he is hereby authorized to make such arrangements as he shall deem necessary for a proper participation of the State officials and the militia in the celebration of the centennial anniversary of the surrender at Yorktown; and to defray the expenses thereof he is hereby authorized to draw his warrant upon the State Treasurer for a sum of money not exceeding \$2,000.

The First Regiment of Delaware—six companies of infantry—with band and drum-corps, attended the celebration at Yorktown.

Extracts recently published from official records of the votes polled in the State for the election of her two Congressmen in 1812 and 1880 may show the growth of Delaware in the number of voters, and proportionally in population, during the sixty-eight years intervening. In 1812 the aggregate vote cast for her Representatives in Congress (two scattering votes included) was 14,809, distributed among four candidates, as follows: Henry M. Ridgely, 4,193; Thomas Cooper, 4,183; David Hall, 3,221; Richard Dale, 3,210. The first two named of these competitors were awarded the certificates of election to represent Delaware in the Thirteenth Congress; their official term being then three years, reduced to two years in 1818. In 1880 the votes polled in the State for her Congressmen numbered 29,420; all of which, except 122, were almost equally divided between two candidates—E. L. Martin 14,966, and John W. Houston 14,332—who received their certificates of election to represent Delaware in the Forty-seventh Congress.

By the new general apportionment of State representation, based on the returns of the United States census of 1880, as fixed by the act of Congress, passed in March, 1881, and to be in force "from and after the 3d of March, 1883," Delaware loses one of her two Representatives in the Lower House of the Federal Legislature, the said act entitling her to one member only.

DENMARK, a kingdom of Northern Europe. The reigning sovereign is Christian IX, fourth son of the late Duke William of Schleswig-Holstein-Sonderburg-Glücksburg, appointed to the succession of the Danish crown by the Treaty of London of May 8, 1852, and by the Danish law of succession of July 31, 1853. He succeeded to the throne on the death of King Frederik VII, November 5, 1863. He was married May 26, 1842, to Louise, Princess of Hesse-Cassel. The heir-apparent is Prince Frederik, born June 3, 1843, and married July 28, 1869, to Louisa, only daughter of King Charles XV of Sweden. Their children are three sons, born in 1870, 1872, and 1876, and three daughters, born in 1875, 1878, and 1880. The second son of the King is King of Greece. The oldest daughter, Alexandra, is wife of the Prince of Wales; the second, Dagmar, wife of the Czar of Russia; the third,

Thyra, wife of the Duke of Cumberland, who is the claimant to the throne of Hanover.

The King has a civil list of 500,000 rigsdalers, and the heir-apparent of 60,000 rigsdalers.

The ministry of 1880 continued in office during the year.

The area of Denmark is 38,302 square kilometres; the population on February 1, 1880, was 1,969,039. The area of the colonies is 192,209 square kilometres (1 square kilometre = 0.386 square mile), with a population of 130,350. The area and population of the several provinces and colonies were as follows:

TERRITORIAL DIVISIONS.	Sq. kilo- metres.	POPULATION.		
		Male.	Female.	Total.
DENMARK.				
City of Copenhagen...	20	108,852	125,998	234,850
Islands.....	13,017	425,844	439,834	865,678
Jutland.....	25,265	432,664	435,847	868,511
Total Denmark...	38,302	967,360	1,001,679	1,969,039
COLONIES.				
Faroe Islands	1,333	5,476	5,745	11,221
Iceland.....	102,417	....	....	72,000
Greenland.....	88,100	....	....	9,531
Danish West Indies...	353	....	....	37,600
Total colonies	192,208	....	....	130,350
Grand total	230,510	....	....	2,099,400

The population of the principal cities was as follows in 1880:

Cities.	Population.
Copenhagen.....	234,850
Copenhagen (with suburbs).....	273,323
Aarhuus.....	24,831
Odense.....	20,804
Aalborg.....	14,152
Randers.....	13,457
Horsen.....	12,652

The population in 1880 was distributed as follows among the different religious denominations:

Denominations.	Population.
Lutherans.....	1,951,361
Reformed.....	1,363
Catholics.....	3,000
Baptists.....	3,637
Irvingians.....	792
Mormons.....	1,722
Other sects.....	1,919
Jews.....	3,946
Mohammedans.....	8
Belonging to no denomination.....	1,074
Unknown.....	167

Of the total population in 1880, 1,904,750 were born in Denmark, and 64,289 abroad. Of those born abroad, 535 were born in Iceland, 212 in Greenland, 225 in the Faroe Islands, 334 in the Danish West Indies, 33,152 in Germany (of these, 2,207 in the province of Schleswig), 24,148 in Sweden, 2,823 in Norway, 454 in England, 384 in Russia, 182 in Austria, 138 in France, 328 in other European countries, 512 in non-European countries, and 862 unknown.

The number of emigrants in 1880 was 5,667, of whom the majority went to the United States.

The annual financial accounts, called *stats-*

reguskab, for the years 1878-'79 and 1879-'80 (the financial year closes on March 31st), were as follows (in crowns—1 crown = 27 cents):

YEAR.	Revenue.	Expenditure.
1878-'79.....	46,065,263	42,118,656
1879-'80.....	47,521,957	44,170,634

In the budget for the year 1880-'81, the revenue was estimated at 47,246,558 crowns, and the expenditure at 41,672,448 crowns.

The national debt of Denmark has been in the course of reduction since 1866, and from 1877 to 1880 was as follows:

DEBT.	1877.	1878.	1879.	1880.
Internal debt..	158,959,192	158,974,096	159,382,773	159,422,961
Foreign debt..	17,289,250	15,449,650	15,376,650	13,908,667
Total.....	176,248,442	174,423,746	174,759,423	173,322,628
State property.	86,218,569	89,949,859	96,056,278	93,059,731
Debt proper.	90,029,873	84,474,387	78,703,145	72,266,897

The total strength of the Danish army in 1880 was as follows:

ARMY.	REGULAR ARMY.		ARMY OF RESERVE.	
	Officers.	Rank and file.	Officers.	Rank and file.
Infantry.....	801	26,992	245	10,925
Cavalry.....	139	2,180	..	.....
Artillery.....	175	4,755	49	2,793
Engineers.....	61	624	..	.....
Total.....	1,176	34,551	294	13,718

The staff consisted of 25 officers and 16 non-commissioned officers.

The navy in 1881 was composed as follows:

VESSELS.	Horse-powers.	Guns.
STEAMERS.		
<i>a. Iron-clads.</i>		
2 frigates.....	2,687	44
3 floating batteries.....	3,980	12
2 casemated vessels.....	6,098	22
2 torpedo-boats.....	3,000	10
<i>b. Other steamers.</i>		
2 frigates.....	2,350	54
3 corvettes.....	4,050	50
5 schooners.....	4,040	26
12 gunboats.....	2,629	27
2 side-wheel steamers.....	1,693	..
33 steamers.....	30,527	245

In addition there were the following sailing-vessels: 2 frigates, 1 brig, 2 cutters, and 20 transport-vessels.

The commercial navy was as follows in 1880:

VESSELS.	Number.	Tons.
Sailing-vessels.....	3,078	208,720
Steamers (13,361 horse-power)...	193	48,826
Total.....	3,271	257,546

The movement of shipping in 1879 was as follows:

VESSELS.		SAILING-VESSELS.		STEAMERS.		TOTAL.	
		Number.	Tons.	Number.	Tons.	Number.	Tons.
Entered.	Coasting-vessels....	14,171	164,783	6,770	151,847	20,941	316,135
	Ocean-vessels.....	13,418	732,899	6,445	420,600	19,863	1,153,559
Cleared.	Coasting-vessels....	14,835	142,028	6,944	139,504	21,829	281,532
	Ocean-vessels.....	12,657	161,801	6,262	252,177	18,919	413,978

The following table exhibits the value (in crowns) of Danish commerce in 1879:

COUNTRIES.	Imports.	Exports.
Great Britain.....	47,183,000	63,585,000
Germany.....	72,760,000	54,027,000
Sweden.....	18,566,000	20,048,000
Norway.....	5,231,000	8,835,000
Russia.....	10,632,000	690,000
Holland.....	5,683,000	950,000
Belgium.....	3,096,000	1,322,000
France.....	3,135,000	2,237,000
Iceland.....	4,165,000	2,868,000
Greenland.....	579,000	625,000
United States.....	10,830,000	696,000
Danish West Indies.	1,330,000	223,000
Brazil.....	269,000	14,000
Faroe Islands.....	436,000	388,000
Other countries . . .	15,158,000	1,550,000
Total	199,053,000	153,063,000

The aggregate length of railroads in operation in 1879 was 1,576 kilometres (1 kilometre = 0.62 mile); of these, 1,240 kilometres belonged to the state and 335 to private companies. The number of post-offices was, in 1879, 164; the number of letters and postal-cards mailed, 27,422,333; of merchandise and printed matter, 2,195,221; of newspapers, 25,733,527. The aggregate length of state telegraph lines was 3,444 kilometres; of wires, 9,115; the number of telegraph-offices was 124. Besides the state telegraph lines there were 137 offices of railroad telegraphs opened to the public. The number of dispatches sent in 1879 was as follows: 422,848 inland, 522,147 international, and 24,128 service dispatches, making a total of 969,123 dispatches.

Denmark found herself during this year in a dilemma such as had not before arisen in any constitutional country. The financial policy propounded by the ministry met the views of the Second Chamber. But the popular Chamber opposed totally the financial projects of the Cabinet, and refused, by a large majority, to agree to the budget until it should be stripped of every feature attaching to the fiscal policy of the Government. The Cabinet did not feel called upon to resign as long as they reflected the opinions of a firm majority in the co-ordinate branch, and since their policy and their course of action met with the hearty approval of the King. An appeal to the country resulted in the re-election of the same men to the popular assembly, and thus rendered more hopeless any escape from the difficulty except the complete surrender of its legislative authority by the Senate. Parliament was dissolved by the advice of the ministry a second time, the third dissolution during the whole contest. The people responded by electing a still heavier majority of the Opposition party.

The Left, in order that they might carry on the conflict with the Landsting and the King to the end, voted temporary supplies for the regular expenses of Government. The Landsting agreed to this measure of relief with reluctance. Upon its term of expiration it was continued indefinitely, pending the struggle over the budget.

The contest resolved itself into the question whether the Government was not answerable to the people, and ought not to submit to the clearly expressed will of the country, as declared by universal suffrage. Estrup and his colleagues in the ministry insisted as a matter of principle that the authority of the Second Chamber and the prerogative of the crown should not be subordinated to the popular branch of the Legislature. The opposition, led by Berg and Holstein-Ledreberg, determined to carry through the principle that the Lower House should entirely control the supplies, and that the arbitrament of the ballot should be decisive in the politics of the country. The ministry withdrew nearly the whole of the disputed items in the budget, until it was no longer a question of financial policy. The insignificant sum, which the ministry still insisted upon and the Opposition objected to, was a mere pretext, the real issue being the responsibility of the ministry to the people. The Left demanded the resignation of the ministry and the formation of a Cabinet from their own ranks, and, in case this did not remove the difficulty, the dissolution of the Landsting.

Measures for the acquisition of railroads by the state were carried in the Folkething in January. It was voted to acquire the East Jutland road, and to construct the projected railways from Tommerop to Assens, and from Rivo to Glyagoro.

The right to furnish passing ships with victuals and marine stores out of the bonded warehouses of Helsingor without the payment of duty, has been granted.

The question of civil marriage came up in the Folkething on the occasion of a private bill. Civil marriage has existed since 1851, but only for dissenters from the national church. It appeared that clergymen frequently refused to marry divorced persons, being prompted by their religious scruples to defy the law. A bill was introduced to extend civil marriage to divorced persons. In a mutual interchange of opinions several spoke in favor of making the civil form general and obligatory.

Three differences of long standing existed between the Government and the representative body. The Government desired to preserve the university fund intact, and pay

the deficit of the university from the public treasury, while the Folkething proposed to cover it out of the capital fund of the university, as has been done before. The difference with reference to the army appropriations was not serious. The question of raising the salaries of officials has long divided the two Things, the Landsting wishing to extend the benefits of the measure to the intermediate officials, and the Folkething to confine them to those of lower grades.

The Government was still unable, after six months of strife, to induce the legislative majority to adopt any part of its programme. On May 7th the King dissolved the Legislature, declaring that "it lacked either the capacity or the will to discharge even a small part of the weighty business which was laid before it." Of 112 projects for legislation brought into the two Houses, 80 had not yet been passed upon, including the budget bill, the matter of supplementing officers' salaries, regulation of the salaries for certain posts, a system of intendants for the army, the inspection of merchant-vessels as to seaworthiness, and other important and pressing measures. The elections took place on the 24th of May. The composition of the new Parliament was not materially different from the last. The majority of the members were re-elected. The 102 representatives in the Folkething were chosen from the different social classes in the following proportion: 37 were farmers; 20 officials and lawyers; 14 teachers; 11 writers, capitalists, etc.; 10 land proprietors; 8 officers, and 2 tradesmen. Copenhagen and the surrounding district elected most of the members of the Right, Northern Fünen and Northern Jutland the Moderates, Northern and Middle Jutland the seceders, who formed the new Center party, and Southern Fünen and Southern Jutland the so-called Radicals. There were 17 new men elected. The body was as badly split up into factions as the Folkething which had been dissolved. The Radical Left counted 29, the Moderate party 23, the Right 33, and the ultra-Conservatives 17. The Moderates and Ultras elected the president, Krabbe. Holstein-Ledreberg declared, on the part of the Left, that his party would not recede from the position they had taken in the former Parliament. Estrup, president of the Council, answered that then no budget could be voted, since the Landsting were in accord with the Government. The temporary allowance for the current necessities of the Government, which had been voted, expired June 30th. The Minister of Finance requested the continuance of the provisional appropriations until an agreement on the law should be reached. This was granted. Although the Right conceded point after point until the sum of the items in dispute was reduced from 1,115,000 to 200,000 crowns, the Left would listen to no compromise. The ministry were not disposed to resign and confide the direction of the Govern-

ment to the hands of the Radicals. Consequently, the Folkething was again dissolved, July 6th. The new election on the 26th returned a still stronger majority of the Left to the Folkething. The Radicals gained 3 seats and counted 32 votes; the Right lost 2 and numbered 22; the Moderates were 24 in number instead of 22; and the Ultras counted 19 votes, a gain of one. The Opposition numbered 75 to 26 ministerialists. The Parliament assembled August 8th. The Crown Prince prepared the address, in the absence of the King in Austria, which was read by the Minister-President, Estrup, without eliciting the usual cheers. Krabbe was again elected president. The ministry announced that in case the Parliament failed to pass a financial bill it would not again be dissolved, but would be prorogued to the regular session, commencing October 3d, while the Government must content itself with the provisional supplies. The Landsting made only four amendments in the financial bill as it came up from the Folkething, involving less than 200,000 crowns, omitting all the other points of strife. The Folkething rejected the amendments by a vote of 71 to 21, and the Landsting, by a majority of 49 to 7, insisted upon the four items. The extraordinary session was then closed by the Crown Prince, on the 30th of August. Parliament opened October 3d without an address from the throne, and, after organizing, adjourned to November 29th.

The political condition of Denmark is in many respects peculiar. Over one half of the population are engaged in agricultural pursuits. This body of agriculturists are prosperous, intelligent, and exceedingly active politically, and progressive in their opinions. Yet within a life-time this same class languished in a state of practical serfdom. Strachey, an English student of Danish affairs, says: "The Danish *Jorddrot* (landlord) was, till recent times, the scourge of the peasantry. Under his parental love the Danish *Bonde* (farmer) was a mere hewer of wood and drawer of water; his lot was no better than that of the most miserable ryot of Bengal. The *Bonde* is now the freest, the most politically wise, the best educated of European yeomen." This social reform has been accomplished by the co-operation of all classes. The advance from the feudalism of the middle ages to the van of modern progress, accomplished in a short period, has brought about a combination of political ideas and social habits not found in other countries, and resulted in a political organization and legal arrangements which are peculiar and in some respects worthy of imitation. The Danish nobility, who have so lately abdicated the privileges of their order, naturally hold very enlightened and advanced political and social theories. Naturally, also, they preserve much of the pride of feudal barons and the habits of social caste. In feudal society, the spirit of caste runs through all ranks, and in Denmark

the habits of mind belonging to that condition are found in the present transitional state to co-exist with intellectual convictions of the most progressive character. The sturdy Danish peasantry, who are descended from a race of freemen, and who, when again emancipated from the feudal yoke, have made such astonishing intellectual and material progress, feel themselves fully competent to guide and control the political destinies of the nation. This they will be empowered to do if the theory of popular sovereignty is adopted into the fundamental law. The upper classes, on the other hand, nurtured as they have been in the habits of political rule, and regarding the peasantry, whom they have helped to elevate, as still in a state of tutelage, stubbornly maintain the existing constitutional barriers against democratic ascendancy. From these political conditions has arisen the present constitutional struggle. The same conservatives who insist upon preserving the aristocratic features remaining in the Constitution, are often extremely democratic and radical in their own doctrines. The conflict between the Folkething and the Lands-thing and crown is a conflict between classes for political power. But there is no real issue at present, nor are there likely to arise any material differences between the classes. Hence, very trivial questions are seized upon as a pretext for an exciting political conflict; and a constitutional crisis can be brought on by the first small matter of difference between the Government and the majority of the Lower Chamber, until the King chooses his Cabinet from the party controlling the vote of the direct representative Chamber, as is done in most constitutional countries.

The land system of Denmark has, within a generation, by a series of constitutional reforms, been quietly revolutionized. The leasehold farms have been converted into freehold properties of 60 or 70 acres each, where the land is good, and of larger extent where it is inferior. The commutation of the feudal tenure, by which the soil of Denmark was held fifty years ago, into peasant proprietorship, has been accomplished by a system of time-purchase prescribed by law and so arranged as to effect the transition successfully and without hardship. Three quarters of the land had passed, ten years ago, into the hands of 70,000 yeomen, nearly every one of whom owned the fee of his farm. The farms average about 100 acres. One eighth of the remaining surface is apportioned in lots, averaging 5 acres in size, among 137,000 peasants, two thirds of whom own their holdings. With regard to the portion of the land still held on lease, the proprietary rights of the landlord are only partial. The few farms which are still held under leases for life pass to the child or heir of the last tenant by a custom which has all the force of law. The manorial estates of the landlord class are the only part of their land over which they possess more than a concurrent ownership.

There were in 1869 1,750 of these estates, averaging about 370 acres, and not covering more than one eighth of the cultivated land of the country. The tenant-rights and customs linking the peasant to his land, which were incident to the feudal system, were so interpreted and enlarged that the land has passed into the proprietorship of the cultivators instead of becoming the absolute property of the feudal lords as in some other countries. The feudal land laws have been abolished by parliamentary action; the greater part of this work having been accomplished since 1849. Socage service has been done away with. Tithes have been commuted, and the game laws reformed. All the legislative efforts have been avowedly and liberally directed to the advantage of the peasantry, and feudal rights have been extinguished or commuted in the interest of a peasant proprietary. The policy of securing to the cultivators the ownership of the soil has been consistently followed by the Legislature, and those whose rights have been set aside in the interest of this great social and economical reform have acquiesced and taken a hand in the work. The lands belonging to the state and to public institutions and corporations were transferred to peasant proprietors by a series of laws passed between 1851 and 1865. The holders of entailed and trust estates were authorized to sell farms to occupiers, and in 1866 a law was passed prohibiting the creation of new entails. The abolition of entails and feudal dues has resulted in the ownership being transferred to the occupants. But the Dances have not been contented with the temporary achievement of this object. Unlike countries in which the feudal system was abolished earlier, the land of Denmark has not been made free, or reduced to the state of a merchantable commodity. The state has interposed its authority and imposed restrictions on the sale and use of land. The land system of Denmark is, therefore, unique in its character. An owner is not entitled to unite several farms into a single holding nor divide a single farm into several holdings. Proprietors are prohibited under severe annual penalties from either absorbing or suppressing a farmstead, except under particular circumstances. A farmer may cultivate one and only one farm besides the one on which he resides. The principle of compulsion to lease, compelling every manorial landlord to let every vacant holding to a new tenant under the Danish life-lease, that is, for the life of the tenant or his widow, is still maintained, and where this does not prevail there is an obligation to lease out for shorter periods if desired. Proprietors are restricted by the forest laws from stripping their lands of timber. Titles and liens are recorded by a very perfect system of public registry; the total cost of the conveyance and registration of a piece of property upon changing hands is from one to three per cent of the purchase-money.

An examination of recruits summoned for military service showed that 86 per cent were able to read and write with ease, and only 1 per cent were totally illiterate.

A squadron of iron-clads, consisting of three monitors and two steam schooners, has been fitted out and placed in command of Vice-Admiral Wrisberg.

The King has revoked the decree of banishment uttered against the Schleswig-Holstein-Augustenburg family after the Schleswig-Holstein War of 1852. The late Duke Frederick, in violation of a compact by which the family received compensation for their demesnes in Denmark, asserted his claims to the throne of the duchies in 1863 and headed a revolt. His quarrel was embraced by Prussia and Austria, with the result that the duchies were annexed to Prussia and the ducal family shut out from the throne as before. The present head of the family is Prince Ernst Gunther, born in 1863.

The Minister of War, General Kaufmann, was appointed Commandant-General of Zealand in place of General Nielsen, retired. The office was placed temporarily in charge of the Naval Minister, Ravn, who was later appointed Minister of War.

On the resignation of Governor Garde, April 1st, C. H. Arendrup was appointed Governor of the Danish West Indies. As the session advanced there appeared to be no prospect of an agreement between the law-giving branches on finance questions.

In answer to a query of the authorities of Holland regarding the importation of infernal machines from America, the Foreign Office expressed its willingness to examine invoices which are not addressed to firms of good standing.

The Icelandic Althing opened July 1st. Iceland rejoices in the comparatively large measure of liberty and independence which has been accorded it recently. The anxious period of the constitutional conflict has been succeeded by one of practical and peaceful progress. A legislative hall has been erected for the Althing in Reykjavik. In the upper stories are placed the National Library and a collection of Icelandic antiquities. The portrait of Jon Sigurdson, the champion of Iceland's independence, is a conspicuous ornament in the hall of sessions, and even the household furniture of the hero is preserved as a national treasure.

DEVILLE, ETIENNE HENRI SAINTE-CLAIRE, French chemist, was born in the Island of St. Thomas, in the West Indies, March 18, 1818, and died at Boulogne-sur-Seine, July 1st. He went to Paris in his boyhood with his brother, the late meteorologist, Charles Deville. Dumas's lectures first attracted him to the study of chemistry. His reputation was rapidly established. In 1844 he became professor at Besançon, and in 1851 was called to the Normal School in Paris, where he held the chair of Chemistry until his death, delivering lectures besides at the Sorbonne. His early studies

were in organic chemistry, but he soon directed his sole attention to mineral chemistry and inorganic analysis, in which field his reputation for thirty years was as high as that of any contemporary chemist. From his laboratory have emanated many great discoveries, some of them of high practical utility. Fruits of his earlier investigations were the synthesis of nitric anhydride, the discovery of toluole, and an improvement in the method of water-analysis in use at that time. His studies of the properties of the metal aluminum and his invention of the method of obtaining that substance in quantities attracted the attention of the world. He studied the metallurgy of platinum, and found out how it could be obtained in a pure state. He elucidated the properties of boron and silicon. Through his ingenuity the metal sodium was rendered obtainable on a large scale, so that its price sank from two thousand to fifteen francs a kilogramme, an invention which has led to important results both theoretical and industrial. Deville attained a proficiency in obtaining excessively high temperatures which was long unexcelled. The artificial production of minerals in his laboratory was a striking demonstration of his success in this direction. The opportunity which it afforded him of observing reactions and thermal phenomena at high temperatures led to the most important of Deville's discoveries—that of the laws of dissociation. Decomposition had previously been supposed to be a simple phenomenon which takes place at a certain fixed temperature for each compound, beginning and completing itself at that temperature. Deville showed that it is effected within a certain range of temperature, and in some cases is arrested by an equilibrium being established between the decomposing body and the products of decomposition. Deville recognized no theory which was not founded on the clearest kind of induction. He questioned the entire theoretical structure of modern chemistry, treating even the atomic theory as a groundless and useless speculation. Deville received a poor stipend from his professorship. The task of instructing beginners was irksome to him; but he was a very amiable teacher, and generously aided and encouraged younger investigators. He died in the possession of a comfortable fortune, being a director of the Municipal Gas Company. He was one of the chief promoters of the International Metre Commission in 1870. Although a man of enthusiastic temperament, his scientific caution and strict accuracy contributed not a little to the enviable reputation he bore in scientific circles.

DIPLOMATIC CORRESPONDENCE. (See NATURALIZATION PAPERS, PANAMA CANAL and PERU, CHILI, AND UNITED STATES.)

DISCIPLES OF CHRIST. The annual meeting of the *General Christian Missionary Convention* was held at Indianapolis, Indiana, October 20th. The Board of Managers re-

ported that its total receipts for the year had been \$29,899, of which \$17,258 had been given in cash, the rest in pledges. The additional sum of \$52,342 had been obtained by eight State and missionary agencies, making a total amount for the co-operative work of the General and State Conventions of \$82,241. The whole number of additions reported by the State organizations and the General Convention was 2,884. More than \$30,000 had been contributed for the church to be built in Washington, D. C., the total cost of which is to be \$35,000. Special report was made of missionary work in Dakota, Oregon, Alabama, Colorado, Georgia, Kansas, Louisiana, Nebraska, North Carolina, Pennsylvania, South Carolina, Tennessee, West Virginia, and Wisconsin. A considerable extension of the mission-fields, and the establishment of a mission among the German population of the country, were recommended. An amended constitution was adopted, containing provisions by which persons contributing to the funds of the society might obtain, through representation in the convention, a voice in its management. The General Christian Missionary Convention was organized in 1849 under the name of the American Christian Missionary Society, and received its present name in 1869. The total amount of moneys contributed in 1881 was \$187,454, giving an annual average of receipts for thirty-two years of \$5,857. In addition to this amount, the State societies had contributed for their co-operative work, since 1870, the sum of \$623,077, making an average for each year of \$51,923. Since 1858, 16,669 persons, or an average of 694 for each year, had been added to the church through the General Convention; and, since 1870, 52,428 persons, or an average of 4,369 for each year, have been added through the State societies.

The sixth annual convention of the *Foreign Christian Missionary Society* met at Indianapolis, Indiana, October 19th. The available resources of the society for the year had been \$13,822, and its expenditures \$13,313. The missions were at Southampton, Chester, and Liverpool, England; Copenhagen, Denmark; Frederikshald, Norway; Paris, France; and Constantinople, Turkey; and returned 648 members, 159 additions during the year, 2,600 persons in the congregations, and 665 in Sunday-schools. The society decided to co-operate with the Christian Woman's Board of Missions in establishing a mission in Japan as soon as that should be judged practicable by the board of managers. The committee on "Present Missions" presented a report in favor of maintaining all the existing missions in foreign countries, making especial reference to those in Great Britain, which was adopted. The committee on the extension of foreign missions made a report deprecating the idea that the duty of the society was fulfilled by establishing and maintaining missions in Protestant Christian countries, indicating Japan and Africa as

suitable fields for further efforts, and recommending the appointment of traveling financial agents to procure subscriptions for the maintenance of the work of the society. This report was adopted.

The *Christian Woman's Board of Missions* has a mission in Jamaica, with 700 members, a school at Kingston, and day-schools, supports a teacher in France, and employs a missionary to the freedmen at Jackson, Mississippi.

The churches of the English missions, embracing congregations at Chester, Liverpool, and Southport, held a meeting at Helsby, August 1st, and took steps for the organization of a conference, "not for the exercise of legislative or ecclesiastical functions, but for the cultivation of personal religion, and the extension of the Redeemer's cause," to be held annually.

DISRAELI, BENJAMIN, Earl of Beaconsfield, twice Prime Minister of Great Britain, died in London, April 19th, at the age of seventy-six. The deceased statesman had suffered for several years from attacks of gout complicated with bronchitis, which at times reduced him to a condition of extreme weakness. The fatal attack seized him, while suffering from general ill health and in a season of exceedingly unfavorable weather, just a month before his death. In the medical treatment of his case, the question of the professional propriety of allopathic physicians consulting with Lord Beaconsfield's attendant, Dr. Kidd, who belonged to the homœopathic or the eclectic school, arose in the regular organization of medical practitioners. Dr. Quain, a physician of reputation, waived the rule of etiquette, and assumed the case jointly with Dr. Kidd, with the general approval of the profession.

Disraeli occupied a position so anomalous that even after the triumphs of his last premiership the sources of his influence and the secrets of the great power he wielded are scarcely understood even by the party which, under his leadership, controlled a vast majority of the suffrages of Great Britain. His character was mistrusted by the Tories themselves when they submissively followed his guidance in courses of which they had no foreknowledge, and which antagonized their own convictions. He brought others to forget their professions and abandon their principles; but in the extremest concessions which he made to the democracy he maintained with justice that he did not depart from the fundamental principles of politics which he had always avowed. Disraeli belonged to a school of political thinkers whose deeper perceptions have not been apprehended by a world dazzled by the philosophy of the French Revolution and of the industrial school of political economy. The older romantic statesmen belied their better inspiration in becoming mere reactionists, the sentimental or the interested champions of existing powers and menaced privileges. Disraeli was a Conservative by nature, but one who possessed the gift of looking before as well as after. He pro-

pounded to himself and to his political disciples in the beginning the question, "What is to be conserved?" and throughout his career he showed himself as radical in lopping off outworn institutions to which even his Liberal opponents still clung as he was conservative in upholding ancient and enduring social principles which were ignored in the Liberal philosophy. Disraeli's political ideal is unfolded in his novels "Coningsby" and "Sibyl." His intellectual method was not comprehended by an age and a nation educated only in the short and easy political logic of deduction from assumed universal axioms. The underlying motive of his speculations was the need which he felt of closer bonds of social interdependence, such as those which the great revolution had unloosed. Neither he nor the age was ripe for constructive developments in that direction even to commence. Disraeli was in advance of the time in recognizing the fatuity of the doctrine that unchecked selfishness is the main-spring of progress. He had the genius to discern the interior vitality of the ancient institutions, proclaimed effete, with which memories of social duties and hallowed relations were associated; and in revindicating the high mission of the throne, the national church, and the nobility, he struck a chord to which the feelings of the higher and the lower classes responded, and which did not leave the great middle class unaffected. Disraeli was a leading spirit in the movement of moral regeneration among the British aristocracy which occurred at the period when he was by hard parliamentary work gaining the reluctant reliance of the Tories upon his brilliant powers of debate and astute party tactics. The confidence and respect which, as a moral leader, he deserved of the Tory party, was tardily meted to him only on account of his political triumphs.

In the field of foreign politics, in which he won and lost his great battles, Disraeli's motives were of a lower order than his social doctrines, which he could not carry out in practical politics, but which actuated him to accept democratic measures; notably to take the "leap in the dark" which extended the franchise to the rural population. Disraeli's foreign policy, loudly as it has been condemned by doctrinaires, is the historical policy of Great Britain. To strengthen the imperial authority in India was a political and exigent course. The domination of Great Britain by the exercise of military power over all the outlying weak and barbarous nations of the world is an immorality the blame for which attaches principally to the mercantile community. They have benefited by such exhibitions of tyranny, and are only brought to condemn them when the cost is not immediately returned to them in rich profits.

Disraeli's bold preparations for war with Russia, which enabled him to reassert England's authority in the councils of Europe, and to return in triumph from Berlin bringing "peace

with honor," was a course which, in spite of subsequent defeat and depreciation, still claims the praises of English patriots. The war with Afghanistan grew directly out of the policy taken toward Russia, and the Transvaal war out of a situation of affairs for which both parties were responsible. That both these wars might with more credit have been avoided was the verdict of the people in the elections of 1880. Disraeli's precipitation from power immediately after attaining the pinnacle of greatness was rather a manifestation of the jealous ingratitude of republics than a condemnation of his policy. The dramatic effect produced by springing his political strokes upon the country as surprises, and the outward pomp and vainglorious flourish of titles in his Oriental policy, were repugnant to the sober second thought of Anglo-Saxon people.

No Continental power was disposed to restrain Russia from acting her will with Turkey after the hard-won conquest. But all the neutral powers approved the spirited stand taken by England, although the English themselves, who had become thoroughly indoctrinated with the theory of non-intervention, acquiesced very reluctantly, until the slumbering martial passions were excited. The Russian version of the "Bulgarian atrocities" was eloquently presented to the country by Gladstone and other Liberal orators. Lord Derby and Lord Carnarvon resigned from the Cabinet. With the party thus crippled and public opinion wavering and turning against him, Disraeli courageously went forward in the course which he deemed necessary to take in order to rescue England's menaced Asiatic interests. A British fleet forced the Dardanelles and anchored before Constantinople. Six million pounds were voted by Parliament for military preparations, and a contingent of native troops from India was landed at Malta, as a signal that the resources of the new empire of India would be drawn upon to prevent the encroachments of Russia upon British possessions in Asia, or her approach toward the route of naval communications with India. Disraeli dictated to Russia the terms of the Treaty of Berlin, and defeated the pretensions of the Treaty of San Stefano. By placing Bosnia and Herzegovina under the domination of Austria, he interested another power in the prevention of Russian aggression beyond the Balkans. The acquisition of Cyprus by England was of doubtful advantage. Upon his return from Berlin he entered the House of Lords with the title of Earl of Beaconsfield. Upon the resignation of the Disraeli Cabinet in 1868 he had been tendered a peerage, but was unwilling at that time to retire from the House of Commons, and accepted the honor for his wife instead, upon whom was conferred the title of Viscountess Beaconsfield. The result of the elections of the spring of 1880 was a surprise to the victorious as well as to the defeated party. It was a bitter disappointment to Disraeli to see his cherished plans brought

to naught and his policy reversed. From his seat in the House of Lords during the remaining year of his life he did not often rise, but occasionally lifted his voice in indignant or sarcastic protest. The biographical details of Lord Beaconsfield's career have been related in an earlier volume (see DISRAELI, BENJAMIN, in "Annual Cyclopædia" for 1877).

DOMINION OF CANADA. Parliament, having been summoned in December, earlier than the usual time of assembling, in order to act upon the Pacific Railway contract to which the Government had pledged themselves, continued in session till March 18th. After the terms of the agreement were published, a company of Canadian capitalists offered to build and keep in operation the transcontinental railroad on terms more favorable to the Government. Their proposition was to fulfill the contract for a money subsidy \$3,000,000 less and a land subsidy 3,000,000 acres less than the syndicate with which the Government had contracted, and furthermore to submit to free competition from parallel lines and roads connecting with the United States railroads, and to forego the immunities granted to the syndicate from general and local taxes and duty on imported materials. They also offered to submit to expropriation at any time on terms to be settled by arbitration. The Liberals did not press for the acceptance of these terms, but argued that the Premier's bargain was materially poorer than the one offered by the Canadian syndicate, and that yet better terms might probably be obtained if competing bids were invited, while still contending that no contract for the completion of the entire line should be entered into at present. The Opposition gained no numerical strength during the session, remaining in a small but strenuous and formidable minority. Parliament was engaged over the contract with the St. Paul syndicate for the transfer of the portions built and the completion of the Pacific Railroad during the whole of January. Mr. Blake brought in, as an amendment to the bill, a proposition to disregard the Government's provisional bargain, and make the best terms for the Dominion which could be secured by competition in the open market. Upon the rejection of this proposition, the clauses of the contract one by one were made the subject of specific amendments. The Government, in view of its inconsistency with the national policy, altered the condition by which the syndicate were granted a special immunity from the duty on steel, and instead made steel duty free for the space of one year. On the 28th of January, in a sitting of seventeen hours, the Opposition offered eighteen amendments, which were all voted down. On the 31st the bill was passed at its third reading by a vote of 128 to 49.

The terms of the contract made provisionally by Sir John A. Macdonald with the St. Paul syndicate, after his failure to induce London capitalists to undertake the completion of

the Pacific Railway, are detailed in the "Annual Cyclopædia" for 1880. They were ratified in all essential particulars by the vote of Parliament. The company receive the sections of the road already completed and under way, the total cost of the property to be handed over to them by the Government being estimated at \$32,500,000. They receive in addition a money subsidy of \$25,000,000, and a land subsidy of 25,000,000 acres. The total subsidies allowed them for completing and running the road for the specified term of years are valued in the aggregate at \$107,500,000. The land they are allowed to select at will, along the line of the main or branch roads, or elsewhere in the unoccupied Northwest. The portions of the line to be constructed by the syndicate were estimated by Sandford Fleming, the former Government engineer, at \$48,500,000. The company are protected from competing parallel roads, and from other lines crossing the boundary, for twenty years. They are also granted immunity from taxation for ever, and are permitted to import all materials free of duty. The right of the Dominion Government to regulate freight and passenger rates is not to be exercised until the earnings on the capital exceed 10 per cent per annum. The company issued \$25,000,000 of bonds secured on their land grant, the amount for which they were allowed to bond the land by the terms of the charter. Of the total amount \$5,000,000 are retained by the Government until the year 1901 as security for the completion of the whole line, and its maintenance. The remaining \$20,000,000 they are allowed to sell for what they will bring, the proceeds to remain in the custody of the Government, and to be paid over to the company as each twenty-mile section is constructed.

The letters patent to the Canadian Pacific Railway Company were issued February 16th, and the requisite \$5,000,000 of stock were subscribed for, and the deposit with the Government of \$1,000,000 made immediately. The company was organized with George Stephen, of Montreal, as president; Duncan McIntyre, of Montreal, vice-president; J. J. C. Abbott, counsel; McIntyre, Angus, and Hill, executive committee; Charles Drinkwater, secretary and treasurer; and A. B. Stickney, general superintendent of the Western Division. The Government transferred the Pembina Branch and the completed portions of the Pacific Railway to the syndicate in the beginning of April. The company announced their intention of rapidly pushing the construction of both the eastern and western sections of the main line, and of building a branch line from a point near its eastern terminus to Sault Ste. Marie, and another from a point beyond Red River to the Souris coal-fields and the United States boundary. The latter project discourages the construction of an independent road from Winnipeg to the coal-mines, for which concessions had been obtained, and the other proposed

branch threatens competition with the line undertaken by the Ontario and Sault company. An amalgamation with the Canada Central and Intercolonial Railway, owned by the Government, was effected by the syndicate. The portions of the main line constructed are about 500 miles in Manitoba and 100 miles in British Columbia. The whole will be completed by the syndicate, it is expected, in about seven years. The entire line will be about 4,500 miles long, extending from Halifax to Burrard Inlet. Surveys have been made for a shorter route between Kamloops and Selkirk than over the Yellowhead Pass, the passage in the Rocky Mountains selected by the Government. It has been decided to construct two branch lines extending in a northwesterly direction from the main line, which will probably be deflected to the south in the Northwest Territory from the line surveyed by the Government engineers. One of the branches is to enter the main line at Brandon and one near the great forks of the Qu'Appelle.

The syndicate introduced regulations with regard to the sale of lands in the Northwest which are more inviting to settlers than those in force before. The price of land in the sections belonging to the company within the 24-mile belt was uniformly fixed at \$2.50 an acre, payable in seven annual installments with interest; but one half of the purchase-money payable within the first three years will be remitted to settlers who crop one eighth or more of an 80 or 160 acre tract, or 100 acres in a 320-acre tract, and a proportionate part of a 640-acre tract; and, when buildings of the value of \$1,000 or more are placed upon the property, the same rebate is continued for five years. The price of a quarter-section or half a quarter-section is thus reduced for the purchaser who tills the prescribed minimum, to \$2.03 an acre, not counting interest, and, if he puts up buildings of the stipulated value, to \$1.72 an acre. The Government have put the same price on the even-numbered sections, but allow no rebate, the right of the pre-emptor to a contiguous quarter-section under the homestead law constituting an equivalent. The Government land is open only to actual settlers. From the 1st of January, 1882, the pre-emption price is due in a single payment at the end of three years. Outside the 24-mile belt one half of the land is subject to homestead and pre-emption at the price of \$2 an acre, and the remainder is salable to any buyers and in any quantities at \$2 cash per acre. The European companies and individuals may purchase tracts of land within the 24-mile belt at \$1.25 an acre on the condition of colonizing them. The Government also reserve the power of granting tracts beyond the 24-mile belt to the Canada Pacific or other railroad companies at \$1 an acre, and of leasing to cattle-breeders for terms of twenty-one years tracts of 100,000 acres or less.

A memorandum of the Minister of Agriculture,

J. H. Pope, presenting a plan for the establishment of impoverished Irish tenant farmers upon unoccupied lands of the Dominion by the assistance of the Canadian and the Imperial Governments, was adopted by the Privy Council of the Dominion and transmitted to the Imperial Government in March. It proposed that provision be made for removing families from Ireland to the Northwest, and their maintenance until the first crop should be gathered from the land. By arrangement in advance, the farm-lots of the new-comers could be prepared, a small dwelling erected on each lot, and a portion of the farm broken up and prepared for seed before the arrival of the immigrant, and in the case of those sent late in the season actually sown, so as to insure a crop the same year that the immigrant is placed in possession. This work would afford employment to the immigrants upon their arrival and while their own crops are growing. The cost of settling immigrants on this plan was estimated at \$200 for transport of a family with three children to Winnipeg, and about the same sum for preparing for seed eight acres of prairie-land. The advances which should be made by the British Government for such purpose might be intrusted to a national emigration association; and the Canadian Government could provide that the cost of preparing homesteads for the occupation of settlers and the cost of transport should form a prior charge upon the land, payable in certain annual installments with interest. The Canadian Government has provided for placing tracts of land in the Northwest at the disposal of emigrant associations or commissions for settlement by families from the old country.

A bill for the extension of the boundaries of Manitoba was brought in the Senate by the ministry in March. It provides in the same manner as a bill which passed the Manitoba Legislature, for the enlargement of the province westward by the incorporation of the settlements up to the Assiniboine, and for the inclusion of the territory eastward up to the Ontario boundary-line. The eastern boundary thus defined may become a matter of controversy, since the western and northern boundaries of the Province of Ontario are in dispute between the Ontario and Dominion authorities.

In an alien act passed by Parliament, the principle was affirmed incidentally that the Dominion Parliament possesses concurrent powers with the Provincial Assemblies in legislation regarding property and civil rights.

The revenue for the year ending June 30th was \$29,712,063, derived from the following sources:

From customs.....	\$13,406,058 18
“ excise.....	5,844,361 14
“ other sources.....	5,961,644 65
Total.....	\$29,712,063 97

The expenditures amounted to \$25,579,168, leaving a surplus of \$4,132,895. The estimate

of expenditures for 1881-'82 submitted to Parliament by the Finance Minister, Sir Leonard Tilley, was \$26,465,000. In view of a probable large increase in the customs revenue, the Government has acceded to demands for larger local expenditures. The increase over the annual budgets presented by the late Government is about \$2,000,000.

The amendments made by Parliament in the tariff law during the session of 1881 were all in the direction of higher and more extended protection.

The protective tariff has not resulted, as its opponents predicted, in perpetuating the condition of depression and commercial inactivity. On the contrary, the material prosperity of Canada under the new tariff has been unexampled. Yet the most intelligent of both parties under-

stand that the development of trade and agriculture was not caused by the tariff. The tide was just turning when the new tariff laws went into operation. The opening up of fresh agricultural areas, the abundance of the crops, and the active demand in Europe for the produce, operated as in the United States to bring about and to sustain the upward movement. The high tariff went into force in March, 1879. Owing to the general prosperity, the total value of imports, though less, was still so large that the revenue from import duties was considerably augmented. The exports in the first year of the tariff exceeded the imports for the first time in the commercial history of the Dominion. The following table contains the returns of the exports and imports, and the duty collected for a series of years:

YEAR ENDING JUNE 30—	Total exports.	Total imports.	Entered for consumption.	Duty.
1863.....	\$57,587,888	\$73,459,644	\$71,985,806	\$8,819,431
1869.....	60,474,781	70,415,165	67,402,170	8,298,910
1870.....	73,578,490	74,814,839	71,237,608	9,468,940
1871.....	74,178,618	96,092,971	86,947,482	11,843,656
1872.....	82,639,663	111,430,527	107,709,116	13,045,494
1873.....	89,789,922	128,011,281	127,514,594	13,017,730
1874.....	89,351,928	128,213,582	127,404,169	14,421,883
1875.....	77,886,979	123,070,233	119,618,657	15,861,382
1876.....	80,966,435	93,210,346	94,733,218	12,333,114
1877.....	75,875,393	99,327,962	96,800,433	12,548,451
1878.....	79,323,667	93,081,787	91,199,577	12,795,693
1879.....	71,491,255	81,964,427	80,341,603	12,939,541
1880.....	87,911,458	86,489,747	71,782,349	14,138,349
Aggregate.....	\$1,001,026,477	\$1,259,582,061	\$1,214,176,332	\$159,527,074

The value of imports for the fiscal year 1881 attained the sum of \$105,330,724; the value of the imports entered for home consumption was \$91,619,434. The customs taxes collected amounted to \$18,778,146. The total exports, including, as in the above table, specie and foreign merchandise, were \$92,026,527. There was thus an excess of imports over exports of \$13,304,197, and an increase over the exports of the preceding year of \$4,115,069.

The tariff completely fulfilled the design of its constructors of discriminating against the products of the United States, and in favor of the manufactures of Great Britain. If intended as a temporary retaliatory measure, its very success must greatly increase the difficulty of returning to reciprocity with the United States. Various industries have been created on the strength of the exclusion of American goods, and are already in extensive operation. The agitation in England in favor of protection and reciprocity, and of a protective league between the mother-country and the colonies, for the exclusion of the products of all other nations, lends vigor to the new policy in Canada. The farming class have not accepted the tariff with entire satisfaction. They are pressing in their demands to have the agricultural interests aided and protected wherever it is possible to lay an import duty, and even to have the excise duties remitted in their favor. A duty upon wool and an increase in the grain duties are strongly agitated. For beet-sugar an immunity

from the excise duty for eight years is demanded. The tobacco-raisers ask for an import duty on tobacco, and a removal of the excise duty on their product.

Before the change in the tariff the imports from the United States had for several years exceeded those from Great Britain. In the first year the imports from the United Kingdom increased in value, while those from the United States fell off so greatly as to be \$5,000,000 less than the British imports, whereas the year before they had been \$13,000,000 greater, and had exceeded them every year since 1874. In 1874-'75 the importations into the Dominion were from Great Britain, \$60,000,000; from the United States, \$50,000,000; from other countries, \$8,000,000. In 1875-'76 the figures were: from Great Britain, \$40,000,000; from the United States, \$46,000,000; from other countries, \$5,000,000. In 1877-'78: from Great Britain, \$37,000,000; the United States, \$46,000,000; other countries, \$5,000,000. In 1878-'79: Great Britain, \$30,000,000; United States, \$43,000,000; other countries, \$5,000,000. In 1879-'80: Great Britain, \$34,000,000; United States, \$29,000,000; other countries, \$7,000,000. In 1878 the value of American goods which were entered for consumption was \$48,631,739, on which duties were paid to the amount of \$4,794,599, or about 9½ per cent. In 1880 the value of imports entered for consumption from the United States was \$29,346,948, which realized \$4,521,-

311 in duties, or nearly 15½ per cent. The duties collected on British imports in 1879 amounted to \$6,445,985 on \$37,431,180, being less than 17¼ per cent. In 1880 the goods entered for consumption from Great Britain decreased to \$34,461,224, but the duty collected was \$6,737,997, averaging over 19½ per cent. The average percentage of duty on the values imported was in 1877 12·63 per cent, 13·74 per cent in 1878, 15·78 per cent in 1879, and in 1880 16·34 per cent. The duty per head of population in 1868 was \$2.62. In 1879 the duties collected were \$3.10 per capita; in 1880 they were \$3.31 per capita, and in 1881 \$4.32.

The exports of mining products decreased from \$3,187,722 in 1879 to \$2,981,613 in 1880; produce of fisheries from \$7,072,203 to \$6,663,347; forest products were exported to the amount of \$17,666,693, against \$13,797,259 in 1879; the class of miscellaneous articles to the amount of \$759,196, against \$450,997. The exports of animals and animal products increased from \$14,737,393 in 1879 to \$18,504,000 in 1880; those of agricultural produce from \$25,970,887 to \$32,287,128. The total exports of products of the soil thus increased from \$40,708,280 to \$50,791,128, or 25 per cent. The Canadian imports of manufactures at the same time increased from \$81,964,427 in 1879, to \$85,489,747 in 1880. The exports of manufactures were \$4,715,776 in 1878, \$3,228,761 in 1879, and \$4,484,211 in 1880, showing an increase under the new tariff of \$1,255,450. But of this increase only \$542,336 represents Canadian products, and these mainly partly manufactured articles. The duties on the raw materials and the implements of manufacturers, and the increased cost of production owing to the higher cost of living, transportation, etc., worked by the tariff, have had the effect of diminishing the exportation of many of the more finished articles of Canadian manufacture. Thus the exports of agricultural implements, carriages, clothing, cordage, boots and shoes, spirits, sewing-machines, machinery, woollens, oil-cake, and other articles fell away, and some of them very heavily. The ship-building industry seems to have suffered most from the tariff. The tonnage of vessels built declined from 106,976 tons in 1878 and 103,551 tons in 1879 to 68,756 tons in 1880. The number of tons registered fell off from 100,089 in 1878 and 94,882 in 1879, to 64,962 in 1880. The value of ships sold to foreigners decreased from \$1,236,146 in 1878, to \$464,327 in 1880.

The imports into the Canadian Dominion and Newfoundland of the following classes of British manufactures are valued in the British trade returns for the first year of the new tariff compared with the preceding year as follows:

BRITISH EXPORTS TO CANADA.	1879.	1880.
Wearing apparel.....	£890,890	£918,954
Cotton goods.....	521,600	665,300
Hardware.....	110,730	150,004
Woollens.....	342,490	509,743
Worsted.....	338,896	447,847

The exports of Canadian products, with coin and bullion exports added, amounted to \$78,638,089 in 1880-'81, as compared with \$74,671,452 in 1879-'80, \$63,136,611 in 1878-'79, and \$80,384,012 in 1872-'73, the year of largest exportation. The classification of the exports of the year is as follows:

CLASS OF EXPORTS.	Produce of Canada.	Produce of other countries.	Total exports.
Produce of the mine	\$1,464,136	\$154,026	\$1,618,162
Produce of fisheries.	6,465,566	23,953	6,494,549
Produce of forests...	24,774,744	772,281	25,547,025
Animals and their produce	21,007,711	1,308,113	22,315,824
Agricult. products..	21,252,490	10,053,628	31,306,118
Manufactures.....	3,039,266	925,580	3,974,796
Miscellaneous	634,176	135,877	770,053
Total.....	\$78,638,059	\$13,388,438	\$92,026,527

The shipments of lumber from the St. Lawrence show a material decline in 1880-'81 as compared with the previous year's exports. The total exports of square timber from Quebec and the lower St. Lawrence amounted to 337,086 tons, against 434,103 tons in 1879-'80, a decline of over 22 per cent. The decrease was distributed over all kinds of lumber, but was most marked in the export of white pine. There was a still greater decline in the grain export trade, amounting to 33·8 per cent. The grain-shipments from Montreal fell from 22,194,054 to 14,671,308 bushels. The wheat export was 6,421,096 bushels, against 9,239,701 in 1880; the corn export 3,334,078, against 7,303,979 bushels; peas were exported to the amount of 3,111,583 bushels, showing a slight gain; oats to the amount of 1,211,221 bushels; barley, 133,659 bushels; rye, 459,666 bushels. The shipments of flour were 618,114 barrels.

The present supply of beef is hardly sufficient to maintain the new and flourishing meat-exporting trade in the dimensions which it has attained. Owing to this outlet for the surplus product, the price of beef rose in Toronto to sixteen cents a pound, and exporters in 1881 experienced much difficulty in obtaining carcasses. The supply from Canada must, therefore, be small for some time to come, and may cease unless prices remain high in England.

The crops of grain averaged better in the Dominion in 1881 than in the United States. The opening up of a large extent of new country in the last few years has provided an abundance of work for the whole Canadian population since the revival of business. Wages have risen to prices which even attract labor from the United States. The lumber industry is seriously affected by the dearth of laborers. In Ontario farmers have been unable to find hands at \$2.25 a day. On the new railroads in Newfoundland \$1.50 a day was paid to laborers.

The lobster-canning industry on Prince Edward Island has been carried on but four years; yet the lobsters have been consumed in such quantities that they are fast giving out.

Stringent regulations have been put in force to preserve them, but they have been ineffectual to stay the falling off. These limit the fishing season to eighty days in the year, and prohibit the capture of lobsters under eight inches in length. The product of the lobster-fisheries in 1880 was 2,000,000 cans.

The exports of coal from the Nova Scotia mines have not increased in the last three years. The number of tons exported are given in the trade returns as 185,443 in 1877-'78, 134,017 in 1878-'79, and 132,796 in 1879-'80. The exports from British Columbia for the same years show a progressive increase, having been 145,542 tons in 1877-'78, 173,789 in 1878-'79, and 204,525 in 1879-'80. The prices at which the British Columbian coal is exported are much higher than those paid for the Nova Scotian product, the value of the exports from the former province in 1879-'80 being given as \$700,142, and that of the latter's exports for the year as \$238,390.

The rate of interest in Canada twenty years ago ranged all the way from 10 to 20 per cent per annum. Down to 1876, 9 per cent was always procurable on mortgages. In 1877 the usual rate came to be $8\frac{1}{2}$ or 8 per cent. In the winter of 1880-'81 the demand for loans on first-class property grew less, and money at the same time more plentiful, so that the prevailing rate sank to 7 per cent and even lower. Banks have ceased to pay interest on deposits. Good township or county loans can be placed at 6 per cent, and the 5 per cent Dominion bonds have risen above par.

From the statistics of crime for the year 1879 it appears that the convictions for crimes against the person were 3,084 in Ontario, being one in 520 inhabitants according to the census of 1871; 1,070, or one in 1,114 inhabitants, in Quebec; 270 in Nova Scotia, or one in 1,390; and 260 in New Brunswick, or one in 1,098. The larger ratio in Ontario is owing to the greater number of foreign-born inhabitants in that province, since the number of convictions among the native-born were only 676, against 668 in Quebec, and 183 in New Brunswick. Of 10 persons tried for murder in Ontario 4 were acquitted, while out of 18 persons brought to trial in Quebec 16 were acquitted. The convictions for crimes of persons reported as well-educated in the Dominion were not more than one seventh as numerous as among the class of the totally illiterate. Out of 2,590 criminals convicted of the graver offenses against the person and against property, 1,106 were married, 42 widowed, and 1,452 single. Out of 1,670 convicts, 902 were set down as moderate drinkers and 768 as intemperate.

The prohibition movement in Canada is gaining in force annually, and there are signs of a strong and wide-spread agitation in immediate prospect. The Scott Permissive Act has been adopted in a number of counties, and the results attained are prompting others to take advantage of it for the suppression of intemper-

ance. Steps have been taken for a vote in some of the cities on the application of this act. The act was passed in 1878. The next year it was tested in the courts, and declared to be unconstitutional by the Supreme Court of New Brunswick. The Government assumed the case, and carried it into the Supreme Court of Appeals of the Dominion, which reversed the decision and declared the Canada Temperance Act to have been within the constitutional powers of Parliament. The liquor interest did not let it rest there, but carried the question before the Judicial Committee of the Privy Council of Great Britain, which tribunal has not yet passed upon the case. The Dominion Government have not taken steps to defend the act before the Privy Council. The Scott act has been adopted by five sixths of the counties and cities of Canada.

The military spirit, as evinced in the training and parading of militia corps, has been more rife of late in Canada than in former years. The active militia of the Dominion are reported as 37,576 men, of which Ontario has 16,801, Quebec 12,251, New Brunswick 2,590, Nova Scotia 3,946, Manitoba and Northwest Territories 576, British Columbia 303, and Prince Edward Island 712.

The report of the Post-Office Savings-Bank for the fiscal year 1881 shows a great growth in the popularity of the institution. The deposits were \$4,175,042, being nearly double those of any previous year, while the withdrawals were \$2,072,289, but little above the usual amount. At the close of the year there were 39,605 accounts open, representing \$6,208,226.77, or an average of \$156.75 per account. This average is higher than it has ever been before. The nearest approach to it was \$147.04 in 1872. The interest paid out to depositors in the year was \$184,904.81. The total sum received by the bank since its establishment in 1868 is \$27,097,124, the total amount withdrawn \$19,852,043, and the sum invested at depositors' request in Dominion stock, \$2,431,900. The bank continues to pay 4 per cent interest on deposits, while many of the loan societies have reduced their rate to 3 per cent. This fact, and the increased prosperity of the people, account for the increase in the bank's business.

The extent of the emigration to the United States has been the subject of many questions and comments. The accuracy of the returns of immigration made by the United States customs officers, especially at Port Huron, as indicating the actual extent of the settlement of Canadians in the United States, has been doubted, perhaps not without reason. The Canadian Government instituted an investigation into the movement. The officers of the railroad companies were questioned regarding the number of tickets sold, which, though affording results more agreeable to their wishes, was a still less reliable statistical method. The census returns did not afford the data for solv-

ing the problem, owing to the custom of enumerating the *de jure* citizens in the Province of Quebec, whence the migration has been strongest, although they may be residing out of the country. A pamphlet by Mr. Lowe, published by the Government, attempts to show that the counter-movement of migration from the United States into Canada was about 90,000 greater in number in the decade 1871-'81 than in the previous decade. The United States returns of immigration from Canada since 1873 are as follows:

FISCAL YEAR.	Number of immigrants.
1873.....	37,871
1874.....	32,960
1875.....	24,051
1876.....	22,471
1877.....	22,116
1878.....	25,563
1879.....	31,268
1880.....	99,706
1881.....	118,664

The *de jure* method of enumeration pursued in Quebec affects the relative representation of the provinces. According to the British North America act, Quebec shall be represented in the Dominion Parliament by 65 members, and the other provinces by numbers which bear the same ratio to their population as that number to the population of Quebec. The representation of the different provinces, as determined by the census, will be as follows: Quebec, 65; Ontario, 92; New Brunswick, 15; Nova Scotia, 21; Prince Edward Island, 6; Manitoba, 4; British Columbia, 6. As compared with the last apportionment, Ontario has gained four members, while the remaining provinces have the same number of representatives. If the same rate of increase prevailed in Quebec which took place between 1861 and 1871, the other provinces would have nine more members than the present census gives them.

According to the census returns, the population of the several provinces, as compared with the census made at each preceding decade since confederation, is as follows:

PROVINCE.	1861.	1871.	1881.
Ontario.....	1,396,091	1,620,851	1,913,460
Quebec.....	1,111,566	1,191,516	1,358,469
Nova Scotia.....	330,857	387,800	440,555
New Brunswick.....	252,047	285,594	321,129
Prince Edward Island....	80,857	94,021	107,751
Manitoba.....	.....	12,228	49,509
British Columbia.....	.....	33,586	60,000
Territories.....	.....	60,500	100,000

In this enumeration the population of the Territories and unorganized districts is merely estimated.

The total population of the Dominion is 4,350,933, an increase upon the census of 1871 of 664,337, the total population then having been 3,786,596. The percentage of increase of population during the decade for each province and for the whole Dominion was as follows: Ontario, 18·05 per cent; Quebec, 14·01; Nova Scotia, 13·61; New Brunswick, 12·44; Prince Edward Island, 14·63; Manitoba, 28·90; British Columbia, 76·66; Territories, 65·28;

the whole Dominion, 18·02. The average rate of growth in the Maritime Provinces was 13·56, while that of the New England States was only 10·30. Ontario's increase was at nearly the same rate as that of Indiana and Ohio. The population of the chief cities of the Dominion, compared with the previous enumerations, and the increase during the last decade, are as follows:

CITY.	1861.	1871.	1881.	Increase.
Montreal.....	90,323	107,225	140,682	33,457
Toronto.....	44,821	56,092	86,445	30,353
Halifax.....	59,990	59,699	62,447	2,748
Quebec.....	25,026	29,582	36,102	6,250
St. John, N. B.....	27,317	28,805	26,128	* 2,677
Hamilton.....	19,096	26,716	35,965	9,249
Ottawa.....	14,669	21,545	27,417	5,872
London.....	11,575	15,826	19,763	3,937
Kingston.....	13,743	12,407	14,093	1,686

Toronto, with its suburbs, has a population of about 100,000, showing a higher rate of increase than any of the older cities of the United States or Canada, except Brooklyn. Of the smaller towns, Levis, in Quebec Province, has fallen off in population from 11,810 to 7,697; Three Rivers has grown from 8,414 to 9,296; Sherbrooke City from 4,432 to 7,227; the newly incorporated Hull City contains 6,668 inhabitants; Sorel contains 5,792, showing a small increase; and St. Hyacinthe has increased from 3,746 to 5,321. In the Province of Ontario, Guelph City has increased from 6,878 to 9,890; St. Catharines from 7,864 to 9,642; Brantford City from 8,107 to 9,626; Belleville City from 7,305 to 9,516; St. Thomas City from 2,197 to 3,370; Stratford from 4,313 to 8,240; Chatham from 5,873 to 7,881; Brockville from 5,102 to 7,608; Peterborough from 2,293 to 6,815; Windsor from 4,253 to 6,567. Woodstock contains 5,373 inhabitants; Galt, 5,189; Lindsay, 5,081.

A steamboat accident occurred on the Thames River, at London, Ontario, May 24th, by which nearly 200 lives were lost. An excursion-boat, named the Victoria, when returning to the city with nearly 600 passengers on board, suddenly collapsed from the excessive load. The boat was weighted down by about half as many more passengers than it was allowed by law to carry, and water was flowing into the hold. A lurch to one side caused the slight stanchions supporting the upper deck to break, and the structure, with the superincumbent mass of people, sank upon those below. At the same time the vessel sank over upon its side, and the entire hull crashed together. It is probable that the boiler was insecurely fastened, and carried the boat over by slipping from its seat. The water was not very deep, but the passengers were plunged into the river upon one another, many injured by the falling timbers, and many more crushed under the wreck. The catastrophe served as a warning, which aroused the officials charged with the inspection of excursion-boats in the United States as well as

* Decrease.

in Canada to the more careful discharge of their duties.

One of the periodical conflagrations to which the wooden-built city of Quebec is liable occurred June 8th, destroying a great part of the suburb of St. John. Nearly 700 buildings were destroyed, among them the fine church of St. John. The pecuniary damage amounted to nearly \$2,000,000. The burned houses were the homes of some 9,000 people.

The Ontario Parliament closed its session March 4th. Several railway projects were chartered and subsidies granted, the chief of the railway bills being the one providing for the Sault Ste. Marie line. The principal act of general legislation was an act consolidating the superior courts of law and equity, and establishing a uniform system of pleading and practice. Important amendments were made in the license, municipal, and education laws. An act was passed to secure better protection of employes and the public against railroad accidents, and one to prevent the deterioration of rivers and streams through negligence in lumbering operations. The Liberal majority in the Assembly continued unbroken. The railway subsidies granted, it is expected, will speedily return to the Treasury in the form of increased revenue from crown lands and timber, resulting from the opening up of the country north of the Georgian Bay by the Sault Railway. A feeling was evinced against the subsidizing of further routes by the province, unless they promise advantages of the same exceptional character. Resolutions were passed in condemnation of the Dominion Government for its tardiness in adjusting the northern and western boundaries of the province, in accordance with the award which was made in 1878. An act was passed to give increased efficiency to mutual-insurance companies of the province.

The act to preserve the public interest in streams was disallowed on a petition to the Governor-General in Council, the reasons given being that it contravened a decision of a court of competent jurisdiction by affirming a public right where the court denied that there was one, that it took away proprietary rights without providing for compensation to the owner, and that it was retroactive in its operation. The Governor-General in Council is empowered, under the British North America act, to disallow provincial laws, not only because they are *ultra vires*, but if they are deemed an abuse of the legislative power within the sphere of provincial legislation. The disallowed act provided that all persons might use slides, dams, gates, booms, and works of excavation for floating timber, upon the payment of a reasonable toll to the owners of the improvements.

The Judicature Act was drawn up on the model of the act for the same purpose passed seven years before by the British Parliament. The Courts of Chancery and Common Pleas and the Queen's Bench were consolidated into a High Court of Justice. The distinction be-

tween the rules of law and equity is abolished, and where they differ the rules of equity are to guide the court. Proceedings in chancery by a bill or information give place to the common-law writ. Technical pleading is done away with, and a plain statement in ordinary language is sufficient.

The total expenditures of Ontario in 1880 amounted to \$2,243,663, of which \$173,732 went for the expenses of the civil government, \$111,585 for legislative expenses, \$265,070 for the administration of justice, \$505,104 for education, \$505,598 for the maintenance of public institutions, \$141,361 for public works, \$52,982 for immigration, \$107,282 for agriculture, arts, and literary institutions, \$72,832 for hospitals and charities, \$91,293 for miscellaneous expenses, \$26,375 for public works, \$96,839 for colonization roads, \$59,046 for crown lands, and \$34,558 refunded. The revenue for 1880 was \$2,451,935. It was made up principally by a subsidy of \$1,116,872; a specific grant of \$80,000; interest on special funds, \$136,696; crown-lands revenue, \$616,311; revenue from public institutions, \$63,982; from education, \$44,284; interest on investments, \$101,812; licenses, \$91,207; law-stamps, \$66,984. The assets of the province, consisting of investments, trust-funds held by the Dominion, deposits in bank, etc., amounted to \$5,040,487, the liabilities to \$820,398, leaving a surplus over and above all indebtedness of \$4,220,088. The estimated expenditures for 1881 were \$2,034,823 for current expenses, \$228,691 for public works charged to capital account, and \$45,677 for other purposes; together, \$2,309,191. The estimate of receipts was \$2,400,169.

An inquiry as to the aggregate indebtedness of municipalities in Ontario shows that it is altogether about \$22,000,000. The principal objects for which the loans were raised were railway aid, which took about \$8,400,000 of the proceeds of the loans; water-works and protection against fire, on which over \$4,750,000 were expended; drainage and sewerage, \$2,000,000; roads and bridges, \$1,800,000; school-buildings, about \$1,500,000; public buildings, \$1,000,000; aid to manufacturers, \$200,000. The municipal taxes for the year 1879 aggregated \$7,872,461, being at a rate somewhat less than one cent on the dollar, the assessed valuation of the province amounting to \$787,000,000 on a basis which would make the actual value of all property about \$1,200,000,000. The municipal expenditures of the province aggregated in 1879 \$11,137,747, of which \$2,630,958 went for schools, \$1,189,143 for roads, bridges, and sidewalks, and \$651,967 for the administration of justice. Municipal administration cost \$993,361.

The Province of Quebec is embarrassed by a debt of about \$17,000,000, the interest and sinking fund for which absorb about \$1,000,000 of the provincial revenues each year. No less than \$12,000,000 represent the cost of the

North Shore Railway, which under government management yields but \$70,000 a year. It is proposed to sell the road to the Canada Pacific syndicate, who, it is estimated, could earn from it as a branch of the Pacific Railway as much as \$500,000 a year, and would be willing to pay for the property \$8,000,000.

A special session of the Manitoba Legislature, called to take action on the boundary extension as soon as the Dominion Parliament should pass a law on the subject, opened March 3d. Manitoba, when it was created a province of the Dominion, was allowed the sum of \$551,447 as an offset to the debts of the other provinces assumed by the Dominion. The expensive system of government set up brought the "Prairie Province" into financial straits. The government was subsequently simplified by the abolition of the Upper Legislative Chamber and the reduction of the number of salaried ministers. Nevertheless, the capital in the hands of the Dominion Government, which allowed five per cent per annum interest, has been consumed to meet current expenses, until there only remains of it the sum of \$243,060. There were withdrawn from the fund in this way \$158,486 between 1872 and 1875, and in 1880 the additional sum of \$100,000 was taken to supply a deficit. The annual subsidies from the Dominion Treasury amount to about \$100,000, being made up of the annual interest on the remainder of the indemnity fund, \$12,153, a specific grant of \$30,000, and 80 cents per head of the population. The revenue collected by the province from taxation does not exceed \$15,000. The total amount available for the current provincial expenses is therefore only about \$115,000 a year. The expenses amounted in 1880 to \$181,329, and in 1881 were expected to be as great, or somewhat greater, on account of the extension of territory.

The agricultural capabilities of British Columbia are of an inferior order, but its mineral resources are probably very rich, and its timber undoubtedly of great value. Professor G. Dawson, of the Geological Survey, states that 110,000,000 acres, two thirds of the total area of the province, including Vancouver and Charlotte Islands, are covered with timber. The most valuable wood is the Douglas fir or Oregon pine. This esteemed commercial tree is found throughout Vancouver Island, adjacent to the 49th parallel of latitude, from the coast to and along the eastern slope of the Rocky Mountains; near and about Fort George; northeastward as far as McLeod's Lake, at Jacta Lake, at Babine Lake, and in many other localities. This tree frequently exceeds 8 feet in diameter above the ground, and grows to a height of from 200 to 300 feet, forming great and dark forests. Masts for export are hewed octagonally from 20 to 32 inches diameter, and 60 to 120 feet long. Yards are hewed of 12 to 24 inches diameter, and 50 to 102 feet long.

The Western hemlock, which grows much larger than the hemlock of the Eastern prov-

inces, is also found everywhere throughout the region of abundant rain-fall, being particularly fine and large in the Charlotte Islands. The other most important tree of the province is the red cedar, which grows there to a prodigious size. From Puget Sound about 150,000,000 feet of timber a year are shipped to California, 25,000,000 feet are sent to foreign countries, and 25,000,000 feet used at home.

In presenting the budget to the Columbia Legislature, Mr. Beaver complained that the Dominion would not assist the province by legislation to collect from the Chinese some contribution to the taxes. The Indians and the Chinese escape taxation altogether, and pay nothing for the support of the provincial government, but contribute to the expenses of the Dominion Government the duties on the imported and excise articles which they consume.

The revenue of Newfoundland for 1880 was \$928,565, a decrease of over \$60,000 as compared with 1879. This decrease was owing to smaller importations of molasses, sugar, spirits, wines, and tobacco. There is a floating debt of \$77,825. The estimated requirements for 1881 were \$989,860. The total expenditures were \$1,105,490. The consolidated and debenture debt of the province on January 1, 1881, amounted to \$1,450,990; but in the early part of the year \$100,000 of this was discharged. The ship-building of 1880 was 132 vessels, of 4,998 tons; the total shipping owned in the colony is 1,830 vessels, of 86,561 tons. The imports for the year 1880 were \$6,966,243 in value, or \$38.33 per capita; the exports, \$6,784,883, or \$37.33 per capita.

DUFAYRE, JULES ARMAND STANISLAS, French ex-Minister, died at Paris, June 27th, aged eighty-three years. Dufayre was the last survivor of the illustrious group of statesmen who came to the front in the reign of Louis Philippe. Free from vanity and ambitious intrigue, he was one of the most trusted and esteemed of French politicians, and in every political crisis for the last forty years he exercised a quiet influence not inferior to that of the more conspicuous actors. Less of a theorist than the other statesmen of his school, which formed its ideas on the model of English constitutionalism, he understood better the capabilities and tendencies of France, and he did more than the others by his efforts as a practical politician and by his own example to implant constitutional principles in France, and to lay the foundations for the secure establishment of the republic. Dufayre was born December 4, 1798, at Saujon, in the department of the Charente-Inférieure. He immediately took a high position at the bar upon completing his legal studies at Paris. He entered political life in the early part of the reign of Louis Philippe, being elected deputy in 1834 for Nantes, which city returned him regularly, except during the empire, from which he held aloof, until 1878. He was appointed a mem-

ber of the Council of State in 1836, but resigned in the following year and became one of the most active of the Opposition members. In May, 1839, he entered the Passy-Villemain Cabinet as Minister of Public Works. The Thiers Cabinet succeeded, the following year, which was followed by that of Guizot, in which Dufaure refused a place, and joined the Opposition, although most of his colleagues remained in office. He opposed the fortification of Paris and the compact with England regarding the right of search, over which was raised a cry against "perfidious Albion." He spoke in favor of the expropriation law, and in 1842 advocated the railway law. He became the leader of the famous "third party," which many of the chief liberals joined. After the Revolution of February Dufaure declared himself in favor of the republic, and took part in the Constituent Assembly as one of the leaders of the Moderate Democracy. Cavaignac called him to his Cabinet, October 13, 1848, as Minister of the Interior, and he had the direction of the official preparations for the election of a president of the republic. He favored the candidature of Cavaignac as being "a man and not an empty name." On December 20th he resigned from the ministry and resumed his seat in the Constituent and in the Legislative Assembly. On June 2, 1849, Louis Napoleon offered him the portfolio of the Interior again, which he accepted from patriotic motives, without ceasing to denounce the National Guards and the political meetings. He was dismissed October 31st, and took his stand as one of the most vigorous opponents of the personal politics of Louis Napoleon, of the revision of the Constitution, and of illegal re-election of the President. After the *coup d'état* he resumed practice at the Paris bar. After the German War and the fall of the second empire he was again elected a deputy from the department of Charente-Inférieure, and was chosen Minister of Justice under Thiers, and then became Vice-President of the Council. On May 19, 1873, he resigned office, and took a stand as leader of the Left Center against prolonging the extraordinary powers intrusted to MacMahon, and in favor of the adoption as a whole of the constitutional laws. He entered the Buffet Cabinet as Minister of Justice, and through this impolitic step lost his election as candidate for the Senate in January, 1876. He was then elected a deputy, and on March 9th was chosen President of the Council. He entered the Senate after the death of Casimir Perier. Dufaure by his shrewd and determined course contributed materially to the fall of MacMahon and the election of Grévy to the presidency. Dufaure was a minister in seven different cabinets and under five different rulers. He never enjoyed any great measure of popularity. He was too often in the Opposition and too rigid in his principles to win

popular admiration. He never courted it, nor planned combinations to secure his own advancement, nor connived in any of the acts of illegality or usurpation which have marked the course of French history in the nineteenth century. He was the obstinate defender of the principle of legality at every juncture, but refused his services to no government so long as it kept within the strict limits of what he considered constitutional action. Always following patriotic aims with single-minded purpose, he was a shrewd and crafty political tactician. As an orator, in the tribune or at the bar, he was remarkably clear and forcible in his statements, and was counted one of the most effective speakers, although his delivery was not attractive, and his speeches were devoid of wit or passion, but did not lack biting sarcasms on occasion. As a minister in the various departments which he filled he displayed the highest order of practical ability and judgment. The French railway system was developed according to his plans. Throughout his public life, even to the day of his death in extreme old age, Dufaure's counsels had more weight in critical junctures of public affairs than those of almost any of his contemporaries, and more than one grave national disaster was averted through his wisdom.

DYNAMITE MANUFACTURE. The French Academy of Sciences has recently awarded a prize of twenty-five hundred francs to Messrs. Boutmy and Foucher for introducing new modes of producing nitro-glycerine in quantity, by means of which the manufacture of dynamite has been rendered much safer than heretofore. The old method, in which fuming nitric acid, or a mixture of that substance and sulphuric acid, was made to act on glycerine, and the mass was suddenly immersed in water, often resulted in the production of enough heat to decompose a part of the nitro-glycerine and occasion a violent explosion in spite of the best refrigerating processes that could be employed. The principle of the new process, for which the prize has been conferred, consists in obviating the greater part of the heat by first engaging the glycerine in a combination with sulphuric acid, which forms a sulpho-glyceric acid, and then destroying this compound slowly, by means of nitric acid. Two liquors are prepared in advance—a sulpho-glyceric and a sulpho-nitric liquor, the latter with equal weights of sulphuric and nitric acids. These disengage a considerable amount of heat; they are allowed to cool, and are then combined in such proportions that the reaction takes place slowly. In the old method the nitro-glycerine is separated almost instantaneously, and rises in part to the surface, rendering washing difficult; in the new method it forms in about twenty hours, with a regularity which prevents danger, and goes to the bottom of the vessel, so that it can be washed rapidly.

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EARTH-WORMS. The important part played by earth-worms in the formation of vegetable mold has been made the subject of a special memoir by Charles Darwin. These articulates are distributed all over the world, being found in the loneliest islands of the sea, even in Kerguelen Land. There are but few genera of earth-worms, and they closely resemble each other. *Lumbricus* is the name of the best-known genus. The species have not been accurately distinguished and numbered; but only a part of them bring up earth in the form of castings, and are engaged in making tillable soil. They appear to be found wherever there is moist earth containing vegetable matter, but seem to abound most where the ground is loose and well charged with humus. Dryness is unfavorable and even fatal to them; but, although

they are terrestrial animals, they have been found by M. Perrier to be capable of living for a considerable time under water. During the summer, when the ground is dry, and during the winter, when it is frozen, they penetrate to a considerable depth in the earth and cease to work. They are nocturnal in their habits, and may often be seen at night crawling over the ground, more often moving their heads and bodies around while their tails are still inserted in their burrows. Only sickly worms, such as are afflicted by the parasitic larva of a fly, as a rule travel in the day-time; and those which are seen dead on the ground after heavy rains are supposed to have been creatures afflicted in some way that have died of weakness rather than by drowning.

The body of a large worm consists of one or two hundred almost cylindrical rings or segments, each furnished with minute bristles,

and of sucking. Internally, a strong pharynx, corresponding, according to Perrier, with the protrusile trunk or proboscis of other annelids, and which is pushed forward when the animal eats, is situated behind the mouth. The pharynx leads into the œsophagus, on each side of the lower part of which are three pairs of large glands, which secrete a surprising amount of carbonate of lime. They are unlike anything that is known in any other animal, and their use is largely a matter of speculation. They are probably partly excretions of the excess of lime contained in the leaves which the animal eats, and may otherwise aid digestion by affording a neutralizing agent against the acids of its food. In most of the species the œsophagus is enlarged into a cup in front of the gizzard. The latter organ is lined with a smooth, thick, chitinous membrane, and is surrounded by weak longitudinal but powerful transverse muscles. Grains of sand and small stones, from one twentieth to a little more than one tenth of an inch in diameter, may be found in the gizzard and intestines, and are supposed to serve, like millstones, to triturate the food. The gizzard opens into the intestine, which presents a peculiar remarkable longitudinal involution of the walls, by which an extensive absorbent surface is gained. The circulatory system is well developed. Breathing is performed through the skin, without special respiratory organs. The nervous system is fairly developed, with two almost confluent cerebral ganglia situated near the anterior end.

Worms have no eyes, and are measurably indifferent to light; yet they can distinguish night from day, and are quickly affected by a strong light, and after some time by a moderate light shining continuously upon them. They do not much mind a moderate radiant heat, but are sensitive to cold. They have no sense of hearing, but are extremely sensitive to vibrations in any solid object. Worms in pots, which had paid no attention to the sound of a piano, when placed on the piano instantly drew into their holes when the notes were struck. Their whole body is sensitive to contact, as of a puff of air. Their sense of smell is feeble, but responds fairly well to the odor of the cabbage and onion or whatever they like. They are omnivorous, and swallow enormous quantities of earth, out of which they extract any digestible matter which it may contain; they also consume decayed and fresh leaves and vegetable matter, and raw, roasted, and decayed meat, but like raw fat best.

Mr. Darwin discovered in worms evidences of a degree of intelligence. They line their burrows with leaves as a protection, it is supposed, against the cold of the clammy ground, and plug the entrances to them with leaves

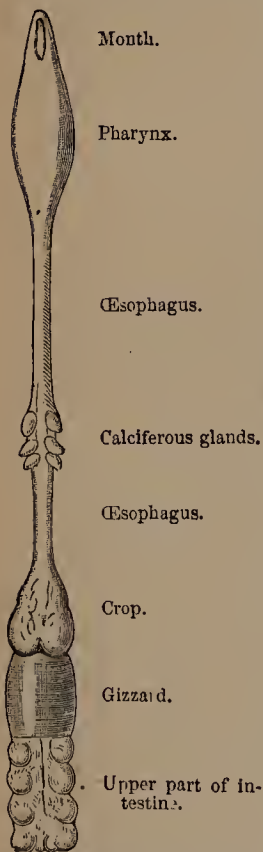


FIG. 1.—DIAGRAM OF THE ALIMENTARY CANAL OF AN EARTH-WORM (*Lumbricus*), (copied from Ray Lankester in "Quarterly Journal of Microscopical Society," vol. xv, new series, pl. vii).

and is endowed with a well-developed muscular system. The mouth is provided with a little projection or lip, capable of taking hold of

and leaf-stalks. It requires some manipulation to get these leaves in right, but the worms know how to perform it, and can discriminate between the easiest way to draw the leaf in and other ways. When they can not obtain leaves, petioles, sticks, etc., with which to plug up the mouths of their burrows, they often protect them by little heaps of stones; and such heaps of smooth, rounded pebbles may often be seen in gravel-walks. Their strength is shown by their often displacing stones in a well-trodden gravel-walk, a task that sometimes demands considerable effort.

Worms excavate their burrows in two ways: by pushing away the earth on all sides where the ground is loose or only moderately compact, and by swallowing the dirt, where the ground is hard, and ejecting the swallowed earth afterward in the form of the "castings" which are found at the mouths of their burrows. They also swallow the earth to extract the nutritious matter which may be contained in it, and in larger quantity than for making their burrows; and the residue of this, after

castings may be seen in garden-walks piled up in towers of greater or less height around the burrows. The towers formed by a naturalized East Indian worm, at Nice, France, which are sometimes distributed as thickly as five or six to a square foot, are built to a height of from two and a half to three inches. The tower of a perichaeta in the Botanic Garden of Calcutta, of which Fig. 2 is an exact representation, measured three and a half inches high and 1.35 inch in diameter.

Some of the towers, as the figure shows, exhibit a considerable degree of skill in their construction. The castings are not always ejected on the surface of the ground, but are often lodged in any cavity that may be met in burrowing. The burrows run down, sometimes perpendicularly, generally a little obliquely, to a depth of three, six, and even eight feet, and are usually lined with a thin layer or plaster of fine, dark-colored earth which the animals have voided, in addition to which a lining is made, near the mouths, of leaves, also plastered. Bits of stones and seeds are also sometimes found in the bottom of the burrows, having been taken down apparently with a purpose.

The amount of earth brought up by worms from beneath the surface has been carefully estimated by observing the rate at which stones and other scattered objects on top of the ground are buried. A piece of waste, swampy land, which was inclosed, drained, plowed, harrowed, and thickly covered with burned marl and cinders, and sowed with grass, in 1822, fifteen years afterward presented the appearance, where holes were dug into it, shown by Fig. 3, the scale of which is half that of nature. Beneath a sod an inch and a half thick was a layer of vegetable mold, free from fragments of every kind; two and a half inches thick. Under this was another layer of mold, an inch and a half thick, full of fragments of burned marl, fragments of coal-cinders, and a few white-quartz pebbles. Beneath this layer, and at a depth of four and a half inches from the surface, the original black, peaty, sandy soil with a few quartz pebbles was encountered. Six and a half years afterward this field was re-examined, and the fragments were found at from four to five inches below the surface, having been covered in that time with an inch and a half more of mold. The average annual increase of thickness for the whole period was .19 of an inch. This was less than the average increase of thickness in some other fields similarly observed, in which the accumulation amounted to .21 and .22 of an inch annually. Another field, which was known as "the stony field," and in which the stones lay so thick that they clattered as one ran down the slope of the hill, became so covered with mold in thirty years that a horse could gallop over the compact turf from one end of the field to the other, and not strike a stone with his shoes. A flagged path in Mr.



FIG. 2.—A TOWER-LIKE CASTING. PROBABLY EJECTED BY A SPECIES OF PERICHAETA (from the Botanic Garden, Calcutta: of natural size, engraved from a photograph).

the nutriment is extracted, is also cast out. The deposition of castings is no insignificant part of the labor that they perform, and leaves very perceptible traces on the surface. The

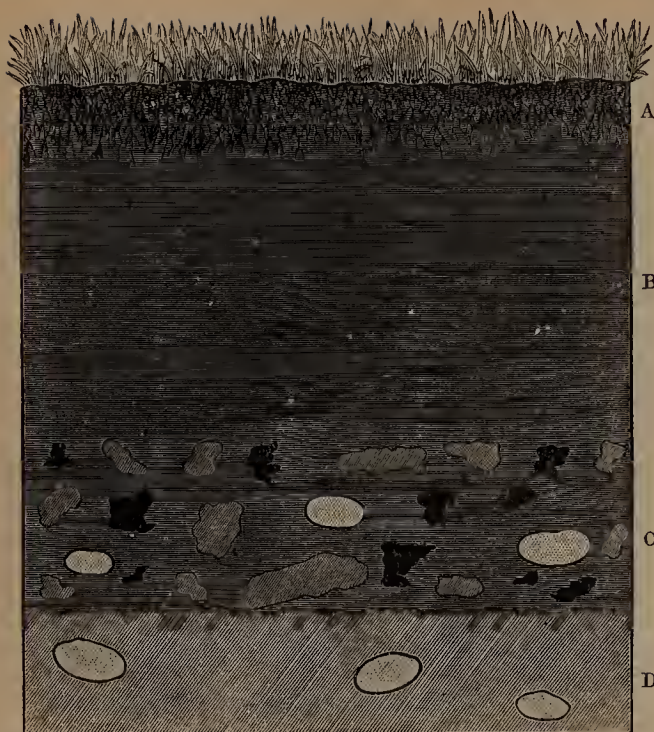


FIG. 3.—SECTION, REDUCED TO HALF THE NATURAL SCALE, OF THE VEGETABLE MOLD IN A FIELD, DRAINED AND RECLAIMED FIFTEEN YEARS PREVIOUSLY. A, turf; B, vegetable mold without any stones; C, mold with fragments of burned marl, coal-cinders, and quartz-pebbles; D, sub-soil of black, peaty sand, with quartz-pebbles.

Darwin's garden disappeared, in the course of years, under an inch of mold with which the worms covered it.

A stone, sixty-four inches long, seventeen inches broad, and from nine to ten inches thick, part of the ruins of a lime-kiln that had been torn down thirty-five years before, lay in a field, its base sunk from one to two inches

below the general level, while the surface of the field for about nine inches around it sloped up toward it to the height of four inches above the surrounding ground close to the stone. (Fig. 4.)

When the stone was removed, an exact cast of its lower side, forming a shallow crateriform hollow, was left, the inner surface of which, except where the base had been in contact with brick rubbish, consisted of fine black mold. The turf-covered border, which sloped up to the stone, consisted of fine vegetable mold, in one part seven inches thick, and was evidently derived from worm-castings, several of which had been recently ejected. This stone would have sunk to the level of the field in two hundred and forty-seven years if none of the castings were washed away by rains. Some of the fallen stones at Stonehenge have become buried to a moderate depth in the ground, and are surrounded by sloping borders of turf, on which recent castings have been seen.

The estimates of the amount of mold brought up by the worms, based on actual weighings and measurements of the castings at particular spots, give results ranging from 7.56 to 18.12 tons per acre in one year, and a volume sufficient to make when spread out a layer of soil of from one to more than two inches thick in ten years. The remains of ancient buildings seem also to have been buried effectively, in large part, through the action of worms. An example of this kind is furnished at Abinger,

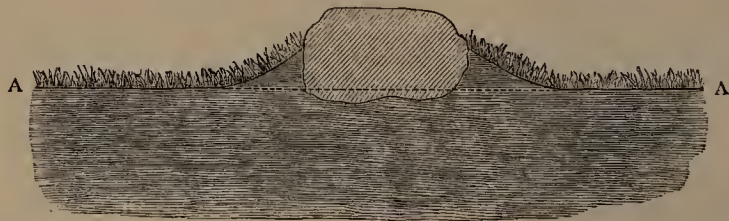


FIG. 4.—TRANSVERSE SECTION ACROSS A LARGE STONE WHICH HAD LAIN ON A GRASS-FIELD FOR THIRTY-FIVE YEARS. A A, general level of the field. The underlying brick rubbish has not been represented. Scale, one half inch to one foot.

Surrey, where the remains of an ancient Roman villa were discovered in 1877. The cut (Fig. 5) represents the appearance presented by the buried wall and the ground around it at a point where one of the trenches was dug. The mold here was from eleven to sixteen inches thick over the tessellated floor, G, and from thirteen to fifteen inches thick over the broken summit of the wall, W. No signs of worms appeared on the trodden-down earth over the *tesserae* when they were first cleared, but many signs of fresh worm-action were seen on the next day, and for the next seven weeks these signs were very abundant. Numerous burrows were

also found in the course of the digging, and worms were brought up from a considerable depth. Three years afterward the worms were still at work, burrowing in the concrete floor and the mortar of the walls.

Other striking examples of the action of worms are found in the ruins of the old Roman town of Silchester, where the concrete floor of the basilica, still covered here and there with *tesserae*, is found at three feet below the surface. Worm-castings were observed on the floors of several of the rooms, in one of which the tessellation was unusually perfect. Open worm-burrows were found beneath all the

loose *tesserae*; worms have penetrated the old walls of the ruins, and were found in them, with traces of mold; and the pavement had sunk considerably in nearly all the rooms.

The chief share of the work of covering the buildings is attributed to worms.

Worms also contribute to the disintegration of the rocks and the denudation of the land,

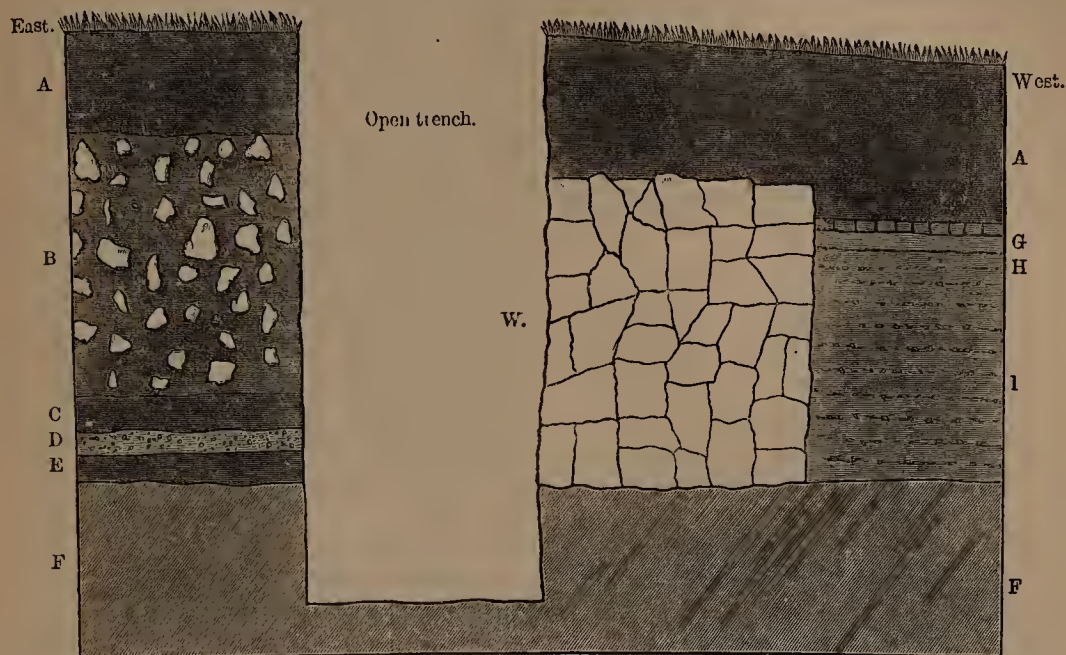


FIG. 5.—SECTION THROUGH THE FOUNDATIONS OF A BURIED ROMAN VILLA AT ABINGER. A A, vegetable mold; B, dark earth full of stones, thirteen inches in thickness; C, black mold; D, broken mortar; E, black mold; F F, undisturbed sub-soil; G, tesserae; H, concrete; I, nature unknown; W, buried wall.

by generating humus acids which act on the carbonates, by grinding up in their crops the stones they swallow, and by bringing earth to the surface in their castings, to be blown away by the winds and washed away by the rains into the valleys. They are extraordinarily numerous. Hensen says there are 53,767 of them

in an acre of garden-soil, and Mr. Darwin is willing to allow half that number, or 26,886, to the acre in corn-fields and pasture-lands; and as in many parts of England a weight of more than ten tons of dry earth annually passes through their bodies and is brought to the surface on each acre, the whole superficial bed of



FIG. 6.—A NORTH AND SOUTH SECTION THROUGH THE SUBSIDED FLOOR OF A CORRIDOR PAVED WITH TESSERÆ (Silchester). Outside the broken-down bounding walls, the excavated ground on each side is shown for a short space. Nature of the ground beneath the tesserae unknown. Scale, $\frac{1}{32}$.

vegetable mold must pass through them every few years. By tritulating this earth, by subjecting its minerals to the action of the humus acids, and by periodically exposing the mold to the air, they prepare the ground in an excellent manner for the growth of fibrous-rooted plants and for seedlings. The bones of dead animals,

the harder parts of insects, the shells of land-mollusks, leaves, twigs, etc., are before long all buried beneath the accumulated castings of worms, and are thus brought in a more or less decayed state within reach of the roots of plants. Leaves are digested by them and converted into humus. Their burrows, penetrat-

ing to a depth of five or six feet, are believed to aid materially in the drainage and ventilation of the ground. They also facilitate the downward passage of roots of moderate size, which are nourished by the humus with which the burrows are lined. Many seeds owe their germination to having been covered by castings; others, buried more deeply, lie dormant till they are brought under conditions favorable to germination.

ECUADOR (REPÚBLICA DEL ECUADOR). Particulars relating to area, territorial division, population, etc., of this republic will be found in our volumes for 1873 and 1878.

The President is General Ignacio de Veintemilla, inaugurated in December, 1876, and declared dictator for an unlimited period in 1878. The First Designado (or Vice-President) was Señor L. Salvador; the Second Designado (or Second Vice-President), Señor J. Novoa; and the Cabinet was composed of the following ministers: Interior and Foreign Affairs, General C. Bernaza; Finance and Public Works, Dr. Martín de Icaza; War and Marine, Colonel F. Bolaña. The Governor of Guayaquil was General J. Sánchez Rubio.

No official returns having been published for a number of years past, it is impossible to give an exact statement of the revenue and expenditure of this distracted country. The former seldom, if ever, exceeds \$2,500,000; while the latter rarely falls short of \$3,500,000! More than one half of the entire revenue is derived from the custom-house of Guayaquil.

The total national debt of Ecuador amounted to \$11,459,000, including the British loan, the particulars concerning which, and the probabilities as to its extinction, are set forth in the subjoined report of the proceedings at a meeting of the bondholders:

Mr. Hyde Clarke (the secretary to the Council of Foreign Bondholders) having read the notice convening the meeting, the Right Hon. E. P. Bouverie stated that the requisitionists were very largely interested in this debt, and their desire was to obtain the sanction of the meeting to a resolution proposing the basis of an arrangement which they hoped might be effected with the state of Ecuador for the purpose of settling the debt. There was a committee of Ecuadorian bondholders, which had sat at the offices of the corporation for some years, and they had fully approved the object of the meeting. The debt was a very old-standing affair. He believed it arose originally from the partition of the ancient Colombian debt, about fifty years ago, between the different states which were then split up out of the old state of Colombia, which had incurred the debt in the wars with Spain. Ecuador paid interest on this debt to a small extent for about twelve or thirteen years, under an arrangement made so long ago as 1854. It then suspended payment, and he believed an act of Congress was passed shortly afterward repudiating the debt. They hoped, however, that a better tone and temper was springing up on the part of the states of South America, indications of which he had found during his experience in that office, and they hoped that that spirit had extended to the Government of Ecuador. At any rate, the requisitionists thought they saw their way to effect an arrangement which would be advantageous to themselves and to the bondholders generally. A short time ago they had deputed a gentleman to go out to Ecuador and

communicate with the Government, with the view of effecting an arrangement which they thought might be submitted to the bondholders. That, however, had not yet been done, for this reason, he understood—that the President of the republic, who was more or less a dictator, but who to a certain extent held his authority and power with the consent of the representative Congress in that country, had said that it was useless for him to propose an arrangement for the acceptance of the Congress, however much he might desire it, unless he received some indication that it would be accepted by the bondholders, as, in the event of its rejection by them after he had induced the Congress to approve an arrangement, he would damage his position. That seemed to him (the chairman) not an unreasonable view, and he believed that the object of the meeting was to see whether they could not agree to a resolution laying down the pecuniary basis on which some such arrangement could be come to as would be acceptable generally. Mr. Robert Campbell, one of the requisitionists, then moved a resolution expressing the readiness of the bondholders to accept an arrangement of the debt which would adequately secure to them, in lieu of their present bonds and arrears of interest, not less than £950,000 new sterling bonds, with interest payable in sterling in London, of not less than 5 per cent, with a sinking fund of 1 per cent accumulative, to be increased after five years to 2 per cent. The re-establishment of the credit of Ecuador on the European bourses would, he continued, be to the great advantage of the Ecuadorian people, and would enable them to develop the immense virgin resources of the country. The large proposed reduction of the debt would show them that the bondholders desired to meet them in a liberal spirit. Dr. Wild having seconded the motion, Mr. F. Bennoch thought it advisable to state the precise condition of the debt at the present moment, in order that the bondholders might understand the position they now occupied, and that in which they would be placed in the event of the terms of the resolution being accepted by the Ecuadorian Government. The chairman replied that the present principal of the debt, as arranged in 1854, was £1,824,000, bearing 1 per cent interest, with the possibility of a rise in the event of the yield of the Guayaquil custom-house exceeding \$400,000 a year. They, however, never received any increase over the 1 per cent, which, as he had stated, they had received for a few years only. The arrears of interest amounted to £264,480 (29 coupons). Therefore, the indebtedness was £2,088,000, which it was proposed should be converted into £950,000 of new 5 per cent bonds. The composition would, therefore, be nearly 10s. in the pound. The amount required under the new arrangement would be £47,500 a year. Mr. Campbell pointed out that that amount was to be made by a population of over 1,000,000. Mr. Wright (of the Ecuadorian Bondholders' Committee) observed that when the old arrangement was made the bondholders were entitled to 25 per cent of the customs' dues, which he understood from Mr. Hazlewood amounted last year to £200,000. Therefore last year the bondholders should have received £50,000. The progress of the South American republics was, he said, stopped by the position of their debts, and if they were arranged their immense natural resources could be developed. It was to be hoped that if the Ecuadorian Government came to an arrangement with the bondholders, they would keep it this time. Mr. Van Raalte having alluded to a sum of £11,000 which, he said, was now in the Bank of England belonging to the bondholders, Mr. Hazlewood referred to his visit to the country a few years ago on behalf of the bondholders, and expressed his belief that the Government of Ecuador would acquiesce in the terms submitted in the resolution. A bondholder stated that the President and ministers had offered to give the salt-duties, which were now £50,000 a year, and could be developed to £70,000, as security for any new arrangement. The chairman then put the resolution, and declared it carried unanimously.

The total value of the imports at the port of Guayaquil, through which the foreign commerce of the republic is almost exclusively carried on, was estimated at \$7,500,000 Ecuadorian pesos,* and the exports at \$9,437,240, for the year 1879. The following table exhibits the quantities and values of the Ecuadorian staples exported in that year:

ARTICLES.	Quantity.	Value in Ecuadorian currency.
Cacao, (pounds)...	31,546,657	\$6,624,797 97
Peruvian bark, "...	1,988,646	595,098 80
Rubber, "...	559,016	818,639 12
Hides, "...	550,829	97,417 83
Ivory-nuts, "...	19,122,4-9	573,674 67
Coffee, "...	597,200	95,552 00
Gold-dust...		60,907 09
Specie.....		682,691 00
Total.....		\$8,998,773 89

The exports and values thereof from Guayaquil to the United States for the same period were as below:

ARTICLES.	Quantity.	Ecuadorian currency.	United States gold.
Cacao..... lbs.	1,563,566	\$856,880 98	\$246,247 87-62
Peruvian bark, "...	620,377	87,778 32	60,567 04-08
Rubber..... "...	523,818	298,186 04	205,748 36-76
Hides..... "...	550,829	97,417 83	67,218 80-27
Ivory-nuts.... "...	2,296,896	98,255 94	67,796 59-86
Fish-glue.....		200 00	188 00-00
Dental instrum'ts.....		800 00	207 00-00
Gold-dust.....		5,698 50	3,981 96-50
Coffee..... lbs.	4,493	858 60	592 43-40
Specie.....		103,644 24	70,959 21-00
Total.....		\$1,049,220 45	\$723,436 79-49

Total export of staples (Ecuadorian currency)...	\$8,998,773 89
Export to the States, ".....	1,049,220 45
Total.....	\$7,949,552 94

The annexed table shows the imports through Guayaquil from the United States in 1879:

ARTICLES.	Value, U. S. gold.
Hardware and cutlery.....	\$43,024 69
Machinery (general).....	77,254 26
Sewing-machines.....	25,148 84
Agricultural implements....	1,547 00
Carts, carriages, etc.....	2,285 00
Dry goods.....	226,735 00
Flour.....	29,824 60
Provisions.....	10,124 00
Lard.....	446,699 78
Canned goods.....	36,175 89
Beer.....	4,927 00
Kerosene.....	11,711 00
Furniture.....	20,561 98
Iron, wrought and unwrought....	14,430 00
Sugar.....	58,862 50
Sundries.....	113,789 43
Total.....	\$1,123,350 88
Probable cargo of the Edith Davis, burned at sea on a voyage to this port.....	25,000 00
Grand total.....	\$1,148,350 88

It is interesting to see the marked increase in the imports from the United States to Ecuador within the past few years, and particularly in 1879, as compared with 1878, in which latter the value of said imports was but \$723,000 in American gold. In 1878, the imports from and exports to Great Britain were of the values of \$1,022,000 and \$1,020,000 respectively; in 1879, they were \$1,410,000 and \$2,615,000; and in 1880, \$1,760,000 and \$3,235,000. The imports from and exports to France in 1878, through Guayaquil, were of the values of \$561,000 and \$157,000 respectively. Thus, the trade with the United States, though rapidly extending, is still far behind that with Great Britain.

The shipping movements at Guayaquil were as follows in 1879:

FLAGS.	ENTERED.			CLEARED.		
	Steamers.	Sailing-vessels.	Tonnage.	Steamers.	Sailing-vessels.	Tonnage.
England.....	117	4	195,657	117	4	195,657
Germany.....	...	19	5,786	...	21	6,844
Peru.....	...	18	572	...	12	537
Ecuador.....	...	33	2,842	...	40	1,917
France.....	...	9	4,956	...	9	4,956
Guatemala.....	...	3	610	...	4	1,412
United States.....	...	3	835	...	3	835
Chili.....	...	1	450	...	..	.....
Nicaragua.....	...	6	1,330	...	4	1,476
Costa Rica.....	...	1	457	...	..	.....
Colombia.....	...	3	160	...	2	48
Holland.....	...	1	359	...	1	359
Belgium.....	...	2	729	...	2	729
Mexico.....	...	2	70	...	..	.....
Honduras.....	...	2	597	...	2	597
Italy.....	...	2	405	...	1	165
Uruguay.....	1	..	221	1	..	221
Denmark.....	...	1	282	...	2	359
Total.....	118	110	215,820	118	107	215,612

The foregoing statistics of trade with the United States have been compiled mainly from the interesting and comprehensive returns forwarded by Consul McLean to the Department of State.

EDUCATION, TECHNICAL, IN SAXONY. A small volume written by Mr. Felkin, an Eng-

* The Ecuadorian peso is reckoned by the American consul at about 69 cents of United States currency.

lish manufacturer resident at Chemnitz, in Saxony, describes the town, its industry, and the schools in which the artisans and the manufacturers, managers, and foremen of the town and neighborhood receive elementary and technical instruction. As this subject of the special instruction of the manufacturing population is yearly becoming more and more important, it is well to record what is being done

in a manufacturing district in the center of the German Empire, Saxony being taken as a fair type of North Germany. Mr. Felkin is a native of Nottingham, England, and has, since 1861, carried on at Chemnitz the manufacture of hosiery, which is also the staple trade of his native place. Besides hosiery, woven fabrics of various kinds are produced; and where water-power was formerly largely employed, steam-engines are now generally in use. Hand-loom and frames are also almost entirely superseded by the latest improvements in mechanical contrivances. Chemnitz is readily accessible by railroad from all parts of the empire, and has large and flourishing factories for locomotives, steam-engines, engineering tools, etc. The workshops of the Saxon Government railroads are placed there, and give employment to five thousand hands. Mr. Felkin points out the significant fact that, in the manufacture of gloves, the Chemnitz workmen have literally destroyed the trade of Nottingham, and, further, that they not only sell their wares in the United States and South America, but have established an agency in Australia. The population of Chemnitz has increased from 40,000, twenty years ago, to 90,000 in 1879; and the surrounding villages have a population of about the same number.

Elementary education here, as everywhere in Germany, is compulsory; and the children of the very poorest class attend the public elementary schools until at least the age of fourteen. After they have left these schools and gone to work, they are still obliged to attend the evening (Fortbildung) school two evenings in each week for two more years. They then become eligible for voluntary attendance in the schools for foremen, for the building trades, and for instruction in elementary drawing. These elementary schools do not receive assistance from the state, and the school-fees vary from \$1.75 per annum in the lowest division, to \$6.35 in the highest class of the highest division. These fees cover about one fourth the cost of maintaining the schools; the other three quarters are borne by the municipality. There are also schools of the same grade, attended by children of wealthier parents, with fees varying from \$11.52 to nearly \$15.00. Children passing through these schools may, if qualified by examination, enter the classical school (Gymnasium), or the modern school (Real Schule), at the age of ten; or they may, after completing the elementary course, continue their education in one of the technical schools.

The regular course of instruction in the elementary schools includes moral and doctrinal religion, arithmetic, geometry, grammar, composition, history, natural history, geography, and gymnastics. The school board has in it always a clergyman and three of the head masters of the schools. Chemnitz school district, including a suburban area, contains 152,000 inhabitants, of which one sixth (about 25,000)

attends the elementary schools. Private schools and teaching are almost unknown in Germany. The Gymnasium of Chemnitz, a fine structure, erected at a cost of about \$63,000, is attended by 350 scholars, who receive instruction from a rector, a sub-rector, and 20 masters. Besides classical instruction, its curriculum includes modern languages and physical science; and students pass from this to the university. The modern school (Real Schule) cost about \$87,000. It receives a subsidy from the state of nearly \$3,000 per annum. It has a director and 26 masters, and is attended by 430 scholars. In place of classics are taught natural history, chemistry, physics, mathematics, mechanical and free-hand drawing, so as to prepare the pupils for the polytechnic and mining schools. The fees in each of these schools are nearly \$30 per annum. Chemnitz has also a public commercial school, with appropriate studies and 170 scholars. In addition there is an evening (Fortbildung) school, established by a workmen's union, at which about 1,900 scholars attend.

All the preceding schools are under the direction of the Minister of Education and Public Worship. The three technical schools, viz., the Technical Institute, the Higher Weaving School, and the Agricultural School, are under the Minister of the Interior. Of these, the Technical Institute is carried on in a building erected by the state at a cost of about \$400,000. It is partly supported by fees, the balance of the income needed being made up by the state. The Higher Weaving School was erected by the municipality, and is maintained by fees and subsidies of \$726 each from the state and the town. The Agricultural School is a recent foundation, and has a small grant from the state. Mr. Felkin has fully described, and illustrated by plans, the laboratories, lecture-room, libraries, and museums of the Technical Institute, which may fairly compare with the more celebrated schools of Germany and Switzerland. It has four departments—the Higher Technical, the School for Foremen, that for the building trades, and the Art School. The Higher Technical School has three branches, one for mechanical engineering, a second for chemical technology, and a third for architecture. Its courses extend over seven *semesters* (a *semester* = six months). The first three are general, after which special subjects are studied. These courses qualify for industrial employment and for the profession of an architect; students, however, who seek for employment in architecture by the state must complete their education in the *Bau-Academie* of Dresden, or in some institution of equal rank. The fees are \$14.50 per semester, and there are 150 students. The School for Foremen has two winter courses of six months each, and two branches of study, viz., one for mechanical and the other for chemical industry. Students are admitted at the age of sixteen, and must have worked for two years at

their trades before admission. Generally they are selected from promising young workmen, educated in the public elementary schools. There are 230 students, who pay \$7.25 for each course. The fee is frequently remitted in cases of unusual merit. These courses include arithmetic, geometry, physics, chemistry, mechanics, and other subjects of technical instruction, as well as German literature and book-keeping. In order to obtain admission to the school for the building trades, students must have worked at their trades for two years. There are four winter courses, adapted to the special wants of the pupils, and generally during the other six months they work at their trades. The students number 170, and the fees are the same as in the School for Foremen. The Art School has 110 students. The Higher Weaving School at Chemnitz, which is one of several in Saxony, appears to be the most important, and its courses are attended by young men from all parts of Europe, including the sons of large manufacturers in England. It has a fine, commodious building, four teachers (of whom two are practical weavers), and students varying in number from 30 to 50. The course occupies two half-years, and the fee is \$65.50. Its instruction includes properties of materials used in weaving, construction of looms, composition of patterns, drawing, etc. The Agricultural School was begun in 1877 with 20 pupils; in two years its numbers increased to 60, with a prospect of still further increase. It is held in the winter months, and is especially serviceable to small land-owners and tenant-farmers. Besides these schools there are others for mechanical weaving, intended for hand-loom weavers, held on Sundays, an evening-school for practical tailoring, etc.

It is believed by some that the educational advantages in Germany have enabled its manufacturing population to compete successfully with English workmen. Probably this may be right, though, at the same time, the cheapness of wages in Saxony must be taken into account as an element in the problem.*

EGYPT, a tributary of Turkey, in North-eastern Africa. The ruler of Egypt, who has the title of Khedive, is Mohammed Tefvik, born in 1852, the eldest son of Ismail Pasha, who resigned June 26, 1879. The eldest son of the Khedive is Prince Abbas Bey, born July 14, 1874.

The area of the entire Egyptian territory is estimated at 2,987,000 square kilometres, with 17,400,000 inhabitants. Egypt proper has about 1,021,354 square kilometres, with a population of 5,517,627. The number of foreigners, in 1878, was 68,653, of whom 29,963 were Greeks, 14,524 Italians, 14,310 French, 3,795 English, 2,480 Austrians, 1,003 Span-

iards, 879 Germans, 752 Persians, 358 Russians, 139 Americans, 127 Belgians, 119 Netherlanders, and 204 others.

The population of the principal cities was as follows in 1877 :

Cairo.....	327,462
Alexandria.....	165,752
Damietta.....	32,730
Rosetta.....	16,243
Suez.....	11,327
Port Said.....	8,854
Port Said (in 1881).....	13,294

After a long period of disorder in the financial condition of Egypt, order has at last been restored. In April, 1880, the Commission of Liquidation, composed of members delegated by the Governments of Germany, Austro-Hungary, France, Great Britain, and Italy, met at Cairo and framed a law, which was promulgated on July 17, 1880. The principal stipulations of this law are—1. Payment of the floating debt, 30 per cent in cash, and 70 per cent in bonds of the new privileged debt; 2. Conversion of the so-called short loans (of 1864, 1865-'66, and 1867) into bonds of the unified debt, with a reduction of the rate of interest to 4 per cent. The debt on January 1, 1881, was as follows :

Title of debt.	
Unified debt at 4 per cent.....	£57,776,340
Privileged debt at 5 per cent.....	22,587,800
Domain loans at 5 per cent.....	8,499,620
Daira Sanieh loans at 4 to 5 per cent....	9,512,870
Total.....	£98,376,630

To this amount it is necessary to add a home debt, which should be paid in fifty annual installments of 150,000 Egyptian pounds each (1 Egyptian pound = \$5), and the interest on the shares of the Suez Canal, bought by England in 1875, amounting to £200,000 annually.

The budget for 1881 was as follows (in Egyptian pounds):

RECEIPTS.	
Direct taxes.....	£5,322,073
Indirect taxes.....	1,568,737
Railroads and telegraphs.....	1,145,575
Other receipts.....	383,036
Total.....	£8,419,421
EXPENDITURES.	
Tribute.....	£681,486
Public debt.....	3,788,840
Administration.....	3,888,544
Total.....	£8,308,876

The military forces of Egypt comprise the regular army and the irregular troops. The regular army is composed of six regiments of infantry, two regiments of cavalry of six squadrons each, one regiment of field-artillery, and three regiments of artillery for fortresses, making in all 15,000 men. The irregular troops comprise seven mounted corps, each containing 4,000 men.

The navy in 1880 comprised two yachts, one frigate, one school-ship, four dispatch-boats, two transports—in all, ten steamers.

The total value of Egyptian commerce in 1855 was estimated at 275,000,000 piasters

* The average weekly wages of mechanics in a locomotive and engineering factory in Chemnitz were, in 1870, as low as \$3.12; a few years later they were \$4.32; at present they are about \$4.00. For similar work, in England, mechanics receive \$5.50 per week; and in the United States wages are considerably higher.

(1 piaster = 4 cents), in 1862 at 506,000,000, in 1870 at 1,028,000,000, in 1875 at 1,333,000,000, in 1876 at 1,356,000,000, in 1877 at 1,275,000,000, in 1878 at 810,000,000, in 1879 at 1,344,000,000, and in 1880 at 1,298,000,000 piasters. The commerce with the different countries in 1880 was as follows (value in piasters) :

COUNTRIES.	Imports.	Exports.
Great Britain.....	348,749,000	907,494,000
France.....	112,983,000	111,410,000
Austria.....	89,895,000	35,636,000
Italy.....	26,748,000	54,844,000
Turkey.....	13,164,000	73,740,000
Russia.....	8,821,000	72,267,000
America.....	7,408,000	9,886,000
Greece.....	1,083,000	13,869,000
Other countries.....	46,142,000	19,686,000
Total.....	654,993,000	1,298,832,000

The value of the principal articles of import and export in 1880 (in piasters) was as follows :

ARTICLES.	Imports.	Exports.
Cereals.....	.....	229,452,000
Cotton-seed.....	.....	154,543,000
Sugar.....	19,648,000	75,593,000
Fermented liquors.....	16,391,000	.....
Articles of food.....	31,816,000	.....
Oil.....	58,553,000	.....
Metal and metal goods.....	25,728,000	.....
Hides.....	.....	10,051,000
Ostrich-feathers.....	.....	10,253,000
Spinning materials.....	14,421,000	752,540,000
Wood and ivory.....	27,086,000	2,970,000
Woven goods.....	292,885,000	.....
Yarns.....	18,944,000	.....
Machinery.....	12,236,000	.....
Boots and shoes.....	13,719,000	.....
Drugs.....	33,253,000	.....
Fats and oils.....	27,155,000	20,491,000
Other goods.....	63,308,000	42,939,000
Total.....	654,993,000	1,298,832,000

The receipts of the Suez Canal Company for 1880 amounted to 41,790,900 francs, the expenses to 28,811,803 francs, leaving a balance of 12,979,097 francs. After deducting the statutory reserve of 5 per cent, a balance of 12,330,145 francs remained. In 1880, 2,017 vessels, of 4,378,064 tons, passed through the canal. The nationality of these vessels was as follows :

COUNTRIES.	Vessels.	Tonnage.
Great Britain.....	1,579	3,460,977
France.....	103	274,990
Netherlands.....	69	173,131
Austria.....	60	116,041
Italy.....	52	105,279
Spain.....	35	85,612
Germany.....	33	54,127
Russia.....	22	46,639
Denmark.....	11	11,030
Turkey.....	10	18,650
Sweden and Norway.....	8	11,379
Portugal.....	6	5,389
Others.....	24	19,370
Total.....	2,017	4,378,064

The length of railway lines in 1880 was 1,518 kilometres. The number of post-offices in 1880 was 130. The number of domestic letters sent was 2,925,084; the number of

postal-cards 48,000; the pieces of printed matter, newspapers, and merchandise, 1,556,000; the number of money orders sent, 38,125, for 39,608,000 piasters; the number of money packages, 32,500, for 1,107,000,000 piasters. The number of foreign letters and postal-cards sent and received was 1,625,139; of newspapers, etc., 1,063,000; of money orders, 11,440, for 4,500,000 piasters.

The two Comptrollers-General, De Blignières and Colvin, made their annual report to the Khedive on the 21st of February. The former Viceroy, Ismail, had not only plunged the country into debt, but had disorganized the entire machinery of the administration. The first task of the two comptrollers was to liquidate the enormous debt. A commission was appointed, composed of representatives of the great powers, and representatives of the Egyptian Government, which in three months elaborated the decree for liquidation, presented to the Khedive on July 17, 1880, and signed by him.

The first step necessary for carrying out the settlement was to realize on the Rothschild loan of 8,500,000 pounds sterling face value; which would yield, after the deduction of the commissions, the first coupon, and the discount, 5,635,500 Egyptian pounds (\$28,290,000). Interminable hindrances stood in the way of the realization. Other public creditors held mortgages upon the state demesnes which were hypothecated for this loan, and new liens were being constantly registered. The prior mortgages were finally lifted by means of money advances from Rothschild, after the later claims had been removed by a viceregal decree annulling the judgment of the Court of Appeals at Alexandria, and declaring the demesnes not subject to execution. The proceeds of the loan were thus made available. The financial transactions for the first year left a surplus. The comptrollers apply the entire surplus from the revenues set aside for the settlement of the debt, when there is a surplus, to the sinking fund. If they yield a surplus sufficient to satisfy the stipulated requirements of the sinking fund, one half of one per cent of the amount of the public debt annually, the remaining revenues are left at the disposition of the Government; but, if they do not, enough is taken from these to make up the amount required for sinking the debt. The budget for 1881 was made up in accordance with these rules. The ordinary receipts for the foregoing year were 5,034,267 Egyptian pounds as returned by the departments, and 4,370,030 pounds (\$21,740,900) when controlled. The extraordinary receipts were expected to amount to about 300,000 pounds (\$1,500,000), and were disposable by decree of the Khedive. The comptrollers recommended their application to public works, as 135,000 Egyptian pounds were needed for the railroads, and as much as 300,000 for public buildings. The revenues for 1880, the report shows, yielded under the re-

formed administration a surplus over expenditures sufficient to add 153,000 Egyptian pounds to the sinking fund, and furnish at least as much for improvements on public works. For some time to come the debt settlement will consume 40 per cent of the total revenues of the state.

The effect of the settlement of the debt question by the liquidation law was to raise the price of Egyptian securities in the market from 150 to 360 francs. Before the close of the year 1880, 11,424,000 Egyptian pounds of floating debt had been paid off, and there remained 1,021,000 pounds yet to settle. The revenues assigned for the payment of the debt and interest are the land-taxes of four provinces and the customs duties.

The public debt of Egypt, amounting to \$365,000,000, exclusive of the Daira and Domain debts, which come to \$85,000,000 more, is an enormous burden for a land which has no mines, forestries, or manufactures, and derives its entire revenues from 4,750,000 acres of agricultural land. The revenue reaches barely \$42,500,000, out of which as much as \$20,000,000 go to the creditors, and \$3,500,000 are paid to the Sultan. The favorable financial results of the year 1880, when, in addition to the fixed obligations, \$1,500,000 surplus was applied to sinking the debt, are attributed by Mr. Money to an abundant harvest, improved trade, the readjustment of the land-tax, the abolition of tax-payments in kind, and the better legal facilities for the collection of arrears in taxation. The two coupons of the unified debt were paid, amounting to \$11,250,000; the deficit of the privileged debt, amounting to \$1,250,000, was made up; the large amount due to the sinking fund was paid; and the above surplus left over. The law of liquidation increased the privileged debt \$18,750,000, making the annual charge for this part of the debt some \$6,000,000.

The accomplishment of the far-reaching reforms which have been instituted in the Government of Egypt is ascribable in a great measure to the merits of Riaz Pasha. The substitution of a Government monopoly of salt, for the system by which the purchase of this commodity was made compulsory, has not resulted favorably for the revenue thus far, by reason of deficient supervision. In January, 1880, twenty-eight small but vexatious taxes were abolished, the poll-tax was done away with, and the trade-taxes were reduced to narrower limits, those which weighed down agricultural occupations being happily removed altogether. The resulting losses to the revenue were made good by an increase in the *Ushuri*, or tithes, resting upon lands.

The *Mukabala*, one of the most vicious financial measures in Ismail Pasha's whole category of impolicy, was remedied at the same time. This was an arrangement by which proprietors could, by the payment of certain assessments, purchase a partial immunity from the land-

taxes for all time. The actual losses accruing to persons who had taken the benefit of this law, by its abolition, were made good to them by Treasury warrants. The land-tax laws were referred to a commission for revision. To establish a rational system of land-taxation in Egypt is a work of long study and labor. The survey and registration of the lands is first necessary, and this work was immediately begun. But, like all public business in Egypt, this simple task soon got into a tangle. General Stone, the chief of the army staff, was intrusted with the supervision of the survey. After nine months of topographical work he was replaced, April 7, 1880, by a commission, which set to work to revise the work performed, and adjudged the greater part of it unsatisfactory. The 300,000 Egyptian pounds thus far expended were consequently wasted, and the labor of surveying the country will not be completed in less than fifteen years, unless a larger force and more capable directors are employed.

The decree of February 25, 1880, fixing the time for the payment of taxes, affords a desired relief to the Fellahs by making the collections fall in harvest-time, and not when the agriculturist has paid out most of his money in preparing for the next crop. In Lower Egypt the taxes are collected, under the new regulations, in part after the cotton-picking, which commences in October, and in part after the winter crop is harvested, or in April and the succeeding months, while during the months of March, August, and September no taxes are collectable. In Upper Egypt nearly all the collections are made between April and August. The *Kurbaj* is still resorted to, and delinquent Fellahs are made to produce their hoards under the lash.

Payments of taxes in kind are abolished, since the improvements in the means of communication, especially in the postal system, enable the inhabitants of the remotest districts to convert their produce into money. The position of the tax-gatherer was materially bettered by allowing him a yearly salary of twelve Egyptian pounds, while the percentage which he is allowed from the collected taxes has been reduced one tenth. Through this change the prevailing system of extortion will be remedied to some extent, and the tax-payer somewhat relieved from the necessity of providing for the support of the collector on a more or less liberal scale, in addition to the payments which find their way into the Treasury.

The tariff has been submitted to thorough regulation, and the collection of customs placed in charge of a better director, with the result that they have yielded in the first year a surplus of 100,000 Egyptian pounds. The system of statute labor the new administration would like to abolish, and they have striven to restrict the demands to the lowest practicable limits. Nevertheless, the Department of Public Works were obliged in 1880

to require 15,000,000 days of compulsory service upon works of indisputable public utility. At first a regulation was made, allowing the Fellahs to purchase release from personal service by the payment of a sum of money; but the law was changed so as to require every one to furnish a substitute before he can secure his discharge, since it was found that the indemnity fee was paid by all the Fellahs, and labor could not be hired.

The education of the people, a matter which has hitherto been sadly neglected, has been taken hold of, and a commission appointed for the elaboration of a plan of reform. The first decision arrived at has been put into execution by the establishment of a normal school.

The Khedive himself, who was made a poor man by the surrender of his estates in 1877, makes but a modest demand on the public revenues, the civil list assigned him being only \$500,000 in amount. The family connections are more exacting, absorbing \$1,100,000, including the ex-Khedive's allowance. The National Debt Office is a burdensome appendage, costing \$250,000 a year in high salaries paid to the European officials. The two chiefs receive \$20,000 each. Expensive foreign functionaries are attached also to the Railway, Domain, and Daira Departments. The payment of high salaries to international assistants has had the result of securing to the ministers an increase in their salaries of from \$7,500 to \$15,000.

The cost of the army is \$1,850,000 a year, of the navy \$300,000. The army numbered, at the time of the financial report, 13,500 officers and men, and the navy not quite 11,500. The pay of the soldiers was complained of as insufficient, that of the officers averaging about \$500 a year, and that of the men barely \$50.

A decree, dated March 30th, created a National Board of Education, on the French model. It possesses extensive powers, and is the supreme authority in educational matters. The Minister of Public Instruction is the president of the board. The amount assigned for purposes of public instruction in 1881 was \$405,000. In the elementary education of the people there has not even a beginning been made yet. Of the above appropriation \$50,000 was set aside for the new organization of education; \$40,000 was assigned for the new normal school; an equal sum is spent on the education of young men in France, and various Government schools for law, technical instruction, medicine, languages, etc., consume the remainder.

The prison management, police, and quarantine systems in Egypt are very defective, but they have the advantage of being inexpensive. A curious item in the budget provides \$450,000 for protecting and feeding the pilgrims to Mecca, and to encourage the great annual pilgrimage. The mixed tribunals cost over \$750,000 a year. The native courts of justice cost, with their host of functionaries, less than

one third as much, but their administration of justice is of the worst description. The sum set aside for the year to meet the expenses of the new judicial organization which is projected is only \$45,000. The nominal amount appropriated for public works is \$2,250,000. Of this, \$250,000 was for the protection of the country against floods, \$500,000 for the maintenance of the great arterial canals called the Mahmoudieh, the Katatbeh, the Ibrahimieh, and the Ismailieh. The maintenance of the Cairo Theatre, the Boulak Museum, and other expenses which are otherwise classed in most countries, are included in the budget for public works.

The exceedingly primitive and scanty needs of the people explain the facility with which the extraordinary demands for the liquidation of the debt are met. The food, clothing, and houses of the Fellah cost next to nothing. He very seldom indulges in the only luxury of his class, that of keeping two wives. His savings are put in jewelry, which he converts into money again in hard times. The Nile fails the agriculturists, and a bad harvest occurs, on an average once in every five years. Since the present management began, a marked improvement in the houses and the whole standard of comfort of the Fallaheen has been observed.

The improvement in the credit of Egypt through the successful operation of the liquidation arrangement was the cause of a sudden expansion of business and a large influx of foreign capital. Companies were established for land cultivation, for lending on mortgage, for building purposes, for sugar-refining, for water-supply, and many other purposes. The interest on money fell, and the price of land rose in many places 300 per cent. Irrigation-pumps and agricultural machinery were imported on a large scale; the importations of these things were 30 per cent greater in 1880 than the year before, and in 1881 showed a still larger increase. The largest part of the new capital embarked in Egypt has come from France.

Counterfeiting frauds, which had been practiced on a large scale for ten years, were discovered in the spring. The headquarters of the coiners were at Geneva and Marseilles. Factories in Switzerland were engaged in turning out millions of piasters—a small, thin coin of the value of five cents—containing 30 per cent less silver than the standard. False Papal francs and small Egyptian and Turkish gold coins were also imported by the criminal organization, which included several persons of position. As much as \$1,500,000 of base money was supposed to be in circulation.

Although the Egyptian dominions cover an area almost as great as Russia in Europe, the lower Nile valley and the delta, which furnish the whole of the revenues with which the Government is supported and the national debt paid, are about the size of Belgium. The rest of the huge empire is a financial drain upon the

resources of the country. In former times the Soodan was the nursery of soldiers and slaves for Egypt. The efforts for the suppression of the slave-traffic, if they are still continued in earnest, are not successful; for gangs are still driven by slavers to the coast. In the seaboard provinces of the Red Sea the Egyptian rule is only nominal a day's march from the coast. The interminable war with Abyssinia has returned no benefits. With the exception of Suakin and a couple of other small ports, the whole of the equatorial provinces are a burden upon the country. The abolition of slavery would probably lead to the gradual commercial development of Upper Egypt. The Khedive is said to be desirous of abolition. But it can only be accomplished by the strong arm, and for that he has not the means, unless his international monitors lend him material assistance.

The situation of Egypt under the present system of international control is not a natural one. If the people had been of a less docile and peaceable nature, and the ruler and political leaders less self-restrained, this system of a foreign directory could not have been imposed without resistance. The establishment of the mixed tribunals by Ismail Pasha ingrafted the principle of foreign interference in the constitution of the country, and these institutions of his own creation became the agents of his downfall. The constitutional issue of the debt crisis was the enforcement, over the Egyptian Government itself, by the foreign governments, which had before 1875 exercised consular jurisdiction, of the principle of the right of jurisdiction of the mixed tribunals that had succeeded the consular courts. The supervision of the entire administration, the management of the finances, and the practical control of all the departments, was at the same time transferred at the dictation of foreign Governments to the international agents of the bond-holders, who were appointed by the intervening powers. France and England chose the two joint comptrollers, and the same powers with Austria and Italy the four commissioners of the public debt. The comptrollers can only be removed by their own governments. They are given full powers of investigation into all branches of the administration. They may attend the meetings of the Council of Ministers, and express an opinion on any public measure. The administration of Riaz Pasha, which was likewise the creature of the intervening powers, followed all the suggestions of the comptrollers, and they themselves have exercised their powers of supreme control in mutual harmony. Since Colvin succeeded Major Baring as the English comptroller, De Blignières has, by virtue of his seniority and longer experience, taken the lead in the management. French and English officials have been at the head of all the important administrations. Besides the control and public debt offices and the judges of the international courts, the cus-

toms, the railways, the telegraphs, the harbors of Alexandria and of the Suez Canal ports, the coast-guard, the light-houses, the post-office, the finance department of the Government, the public works, and the administration of the Domain and Daira lands, are all directed by executive officers of one or the other of those nationalities. The subordinate positions in all the offices are divided between natives and Frenchmen. Through the selection of able and hard-working officials, the French have gained a stronger footing in the administrations than the English. The reforms inaugurated by the initiative of the comptrollers have worked well, and the foreign experts who have been intrusted with the administrative control of the government offices have for the most part performed their duties faithfully and capably. The very success of the foreign administrators in extricating the country from the financial quicksand into which it had fallen, in organizing the general administration of the government and bringing it into working order, and in creating confidence in the future of the country and attracting capital and skill from abroad, hastened the period when native and religious prejudices would come to the surface. Egyptians naturally chafed to see the government of their country taken out of their hands, and all the important posts filled by aliens. The sooner the new system began to work well, the more impatient they were of the government by foreigners. This abnormal situation was the more irksome, from the circumstance that the foreign officials receive salaries which would be enormous in any country, but which are unheard of in Egypt.

The Khedive gave his countenance and support to the administrative reforms. He is fully conscious of the lack of technical attainments and executive ability on the part of his countrymen, and welcomes the aid of the European administrators. He is satisfied that their efforts are working for the best good of his people. He is willing to wait for the plans which his European counselors have in view for the material improvement and intellectual elevation of the Egyptian people, to be matured and to work out their gradual results. He is gratified at the progress which has already been made in that direction, and desires that his people should be schooled in the methods which are being put in practice. But, friend of progress as he is, he is intensely patriotic and thoroughly Egyptian in his feelings, and is also an earnest and devout Mohammedan. He brooks with impatience the position of political effacement in which the circumstances of his succession have placed him, and looks hopefully for a time when he will be more of a ruler in his own land, surrounded by advisers and officers chosen from among his own people. Tevfik was, therefore, on his guard against the development of foreign interests in Egypt, except those which depended on the acknowledged international obligations of the

country, and such commercial enterprises as he deemed conducive to the prosperity and progress of his people.

Industrial and commercial enterprises of all kinds have been welcomed. But the Khedive, whose authorization is necessary before any corporation can be established, has firmly set his face against the acquisition of lands by foreign agricultural companies. In this he has been seconded by the comptrollers.

Egypt has become, in the way explained above, the ward of the Christian powers. There are fourteen governments that claim the right of intervention which England and France have exercised as trustees for the rest. England and France, though acting thus far in harmony, are the chief rivals for the reversion of this part of the Ottoman Empire. Turkey was allowed to take advantage of the situation, to strengthen her hold on Egypt. By the firman of 1879, which confirmed Tevfik on the throne, the Sultan annulled the practical independence which Ismail had purchased at an enormous price, and reasserted his sovereignty in principle by depriving the Khedive of the power of contracting foreign loans and that of indefinitely increasing the army. The limit to which the military establishment is restricted is 18,000 men. Germany, Austria, and Italy do not let the claims of either England or France pass unchallenged. They are seeking to extend their prestige in Egypt. They may cry "Stop!" by their united voice in the European concert, to the aggressions of either of the rivals. The French are the most firmly seated in Egypt; they have done the most for the country, and now exploit it as a commercial dependency, while English mercantile interests in Egypt are waning at present. Yet the old boast that the Mediterranean will become "a French lake" is not now uttered openly. The recent extension of French dominion on the northern coast of Africa has not only awakened the distrust of the English, but has caused serious alarm in Egypt. Great Britain, since the construction of the Suez Canal, claims Egypt as her own property by the right of the stronger, and is prepared to occupy and hold the country with her whole military strength against all comers, and to supersede the government and subjugate the people the moment the submission required by her "paramount interests" is refused.

The change from national independence to a mediatized condition, in which the functions of government were exercised by the agents of European powers, and the Franks were insinuating themselves into all the positions of profit and authority, and in which the Sultan was making his regained sovereignty unpleasantly felt, had its natural outcome in a national movement. This movement took form in 1881. It conflicted with the policy adopted by the Khedive; but from his nature and his position he could not help being in some respects morally identified with it. The

natural champions of the native cause were the army, the only institution which had not been denationalized, and the class which would least appreciate the good in the foreign innovations. The soldiers had a grievance of their own: their native officers were being displaced by Turks. Smarting under this wrong, they assumed the character of the Janizaries of old, with a determination which made it apparent that foreign domination can not acquire much moral strength and authority, even over so docile and submissive a people as the Egyptians, from mere diplomatic arrangements.

A mutiny of troops broke out at Cairo on the 2d of February, of such dimensions that the Government was intimidated, and allowed its course to be dictated by the soldiery. Dissatisfaction had been felt for some time by the Arab officers at the conduct of the Minister of War, Osman Reski Pasha. The minister, who was of Circassian origin, offended the native officers by giving appointments to Turkish officers and favoring them, while he treated the Arabs with arrogance and contempt. The colonel of the body-guards and the colonels of the two other regiments stationed at Cairo presented a petition to the Viceroy, requesting the removal of the Minister of War. The address was handed to the Prime Minister, Riaz Pasha, who in the course of time sent it to the Minister of War. The latter called a council of war, and ordered the three colonels to be placed under arrest. The guard regiment, as soon as they heard of the arrest of their colonel, stormed the arsenal where the officers were confined, and where the investigating board was sitting. Osman Pasha escaped by flight, and Eflatun Pasha, his deputy, and General Stone Pasha, the American chief of the staff, were maltreated. Finally, the imprisoned officers were found and borne away in triumph to the Abdin Palace, which was surrounded by the troops, boisterously demanding an audience with the Khedive, to whom they reiterated the demand for the dismissal of Osman. The Khedive indignantly ordered the insubordinate colonels to give up their swords, and met with a flat refusal. The ministers came to the Viceroy and took council. After some deliberation they concluded that it was best to yield. The soldiers, after they were told that Osman was removed, and Mahmoud Sami Pasha el Barudis, at the time Minister of the *Waqf*, or Public Institutions, appointed in his place, departed with salutes and cheers.

The most popular of the refractory colonels, Ahmed Araby Bey, became the leader of the native cause. He possessed all the qualities of a patriot leader and champion of popular rights. In the time of Ismail he had been deprived of his rank through caprice, and succeeded in being restored. From that time he determined to devote his efforts to obtaining the privilege of a fair trial for the officers of the army before they could be dismissed. His sympathies soon extended over a wider field.

The arbitrary and ignoble treatment of the Fellaheen by the officers of the law led him to ponder on a reform in the administration of civil justice by which human rights and the principles of justice should be respected all over Egypt. The idea of inciting the army to demand popular reforms was conceived by Araby Bey and his fellow-officers in the reign of Ismail, but they doubted their success against his organized power and ruthless will. When the step was once taken, Araby Bey was the chosen director of this new and dangerous political force. He possessed the unmeasured confidence of the army, and soon won the devotion of the people. In the spring he gained the ear of the Khedive, and persuaded him of the necessity for certain reforms in the army. In September a military revolution was effected, and the attempt to establish a Pretorian rule of the army over the affairs of the country was for the time being a success. Riaz Pasha's tenure of the premiership had some time before grown insecure. His possible successors were Sherif Pasha and Nubar Pasha, both Egyptian statesmen of pre-eminent standing and distinguished services. Sherif Pasha has held every one of the ministerial portfolios at one time or another, and has been several times prime minister. Though educated in Paris, he is a staunch Mohammedan. He comes from a distinguished family, and bears an unimpeached character for probity. Nubar Pasha is the most widely known of the native statesmen. He was the originator of the international tribunals, and his high talents and broad, statesmanlike views have gained the respect of Europe. The French consul-general, Baron de Ring, an able but ambitious man, agitated for the downfall of the Riaz ministry, and, coming into conflict with the French comptroller, was called to another post. Riaz Pasha was particularly objectionable to the army and the national agitators. He was held responsible for the custom of promoting foreigners, to the exclusion of native talent. He was a foreigner himself, a Circassian, and his expressed preference for Turkish and Circassian officers in the higher commands, as possessing more military talent and experience, rendered him obnoxious to the army. The practice of passing the Arab officers in making promotions was discontinued after the demonstration in February. There were some two thousand army officers in Egypt, the majority of them without commands. They were a unit in the present movement, and their influence over the rank and file was complete.

The Khedive had himself come into conflict with Riaz Pasha. He had insisted on certain measures which Riaz had opposed and slighted. The Khedive declared that he would assume the presidency of his council himself. He thus came to be counted with the growing party which was agitating for the fall of Riaz, and was associated with, although he gave no sign of encouragement to, the revolutionary army

party who were seeking with threats of military violence to have the numerous and high-paid foreign officials replaced by native Egyptians, and otherwise curtail the privileges accorded to foreigners. One of the complaints was that the foreigners who were amassing wealth in Cairo and Alexandria were practically exempt from taxation. The special grievances of the army—the threatened reduction of the forces, the miserable pay, the appointment of unpopular and supercilious Turkish officers, etc.—were more immediately felt. Among all the national aspirations no demand was uttered for the abolition of the comptrollership. The Khedive proposed to the recalcitrant colonels that they make a declaration of their allegiance. Araby signed such a protest of loyalty, but his colleagues refused. The military party had, since the affair of February, insisted on the retirement of the Riaz Cabinet, and on certain reforms in the military service.

On the forenoon of the 9th of February the Minister of War, Daoud Pasha, was handed a document signed by Araby Bey, demanding the dismissal of the ministry, a constitution, and the increase of the army to 18,000, and stating that the troops would appear before the Abdin Palace in the afternoon, and remain there until their demands were satisfied, unless sooner apprised of the assent of the Khedive. The Viceroy, on the advice of Comptroller Colvin and Riaz, proceeded to summon the loyal troops in person to resist the insurgents. At the stated hour 4,000 troops with 18 cannon marched to the palace, and when the Khedive returned he found them drawn up around it. Colvin advised him to advance and arrest the leader. Tefvik commanded Araby to dismount, which he did, sheathing his sword. But, instead of ordering him into arrest, the Khedive asked him his business. Araby Bey replied: "We come for law and justice; so long as you give us both, you are our Effendina; if not, we have your successor ready." Through several foreign representatives, who performed the part of intermediators, a long parley took place. The end of the Khedive's deliberations was, that he agreed to a change of ministers, and promised to submit the other points to the Porte. The insurgents objected to the names proposed by the Viceroy for chief of Cabinet, and insisted on Sherif Pasha. Upon his agreeing to invite Sherif to form a Cabinet, and delivering to the insurgents a letter conferring the appointment, which was read to the soldiers by Colonel Araby Bey, the troops marched to their quarters.

Sherif Pasha was at first reluctant to accept office under such circumstances. The negotiations with the troops were continued the following day, and then broken off. An Assembly of Notables gathered at Cairo, through whose intervention it was arranged that Sherif Pasha should form a ministry, with Mahmoud Sami as Minister of War, that the reforms in the military regulations demanded should be

carried out, with the exception of the increase of the army, and that the regiments should leave Cairo at the time fixed by Sherif Pasha. The immediate occasion for the outbreak had been an order of Riaz to transfer Araby Bey and his regiment to Alexandria.

The new ministry was formed on the 14th. It was composed as follows: Sherif Pasha, President of the Council and Minister of the Interior; Haidar Pasha, Minister of Finance; Ismail Ayub Pasha, Minister of Public Works; Mahmond Sami, Minister of War; Mustapha Fehmi Pasha, Minister for Foreign Affairs, continuing in the same post which he held; and Kadri Bey, Minister of Justice.

There was much talk in Europe of a military expedition to Egypt to restore order and enforce the authority of the Government. But such an act on the part of either England or France, or both jointly, might lead to perilous complications which they were not prepared to encounter. The occupation of Egypt by Turkish forces and the active exercise of his authority as suzerain by the Caliph, France would not listen to, in view of the complications in Tunis and Algiers. A protest was raised even against the dispatch of Turkish commissioners to the Khedive. The Porte, nevertheless, sent its messengers, Ali Fuad and Nizami Pasha, who assured the Khedive of the satisfaction of the Sultan as to his course, and enjoined the preservation of the *status quo*. The commissioners had hardly begun their work of investigation, when they were suddenly recalled. There are evidences of a secret correspondence between Tevfik and the wily and scheming Sultan, Abdul Hamid. The Khedive, fretting under the dictation of Riaz and the domination of the comptrollers, was inclined to turn for relief to the Sultan, whose suzerainty Ismail had expended all his craft and uncounted treasure to shake off. The Sultan, revolving in his mind the methods of acquiring ascendancy in Egypt, was captivated by a scheme of a certain Hafyz Pasha for organizing Egypt as a privileged autonomous province on the model of the Lebanon. He had previously encouraged Halim, uncle of Ismail, in his efforts to supplant Tevfik on the throne, with French and English consent. The secret agencies of Oriental intrigue have been at work for some time at Cairo, and those elements of the present disorder which can help the Sultan's Panislamic aspirations are fomented at Constantinople. The *ulemas* of the great mosque, El Azhar, are willing instruments of the propaganda, which has spread among the native merchants and lawyers through the efforts of one Sheik Senussi. By these means a schism was produced in the popular party. The army officers who began the agitation, and the landowners and peasants who embraced the national cause, were as much opposed to Turkish as to Christian aggression, while the Stamboul wire-pullers found means to partially convert the movement into an anti-Christian ferment.

The Panislamic pretensions of the Commander of the Faithful gained in popular favor after the French invasion of Tunis. The fears of British annexation, excited by expressions in the English press, strengthened this sentiment as well as the purely national impulse. Sherif Pasha, though a Turk by blood, has the reputation of being a stubborn foe to Turkish domination.

A dispatch of the British Government to Sir Edward Mallet, sent in November, declared that the British policy in Egypt was opposed to all intervention, and would support the native autonomous government within the limits of the rights accorded by the firmans of the Sultan—that England does not favor separation from Turkey. The present connection with Turkey is a safeguard against foreign intervention and rival ambition. England and France, who share the same views, have co-operated to secure good government. One great reform remains to be effected—good and systematic justice between natives in their dealings with each other. This work should be accomplished by Egyptians, and not by the extension of the international tribunals. The dispatch ends with a warning that this policy would be changed if anarchy or disorder should become prevalent. The fears of a British occupation had taken strong hold of the Egyptians, and were one of the prime causes of the nationalist agitation. The dispatch of Lord Granville was effective in allaying this dread, which was growing stronger.

The Fellaheen, unable to obtain justice from the native judges, have frequently brought their cases by means of legal subterfuges into the international courts. A scheme for a local judiciary was elaborated by the new ministry, and the tribunals were organized and ready to hear complaints by the beginning of 1882. In October occurred another manifestation of the new political forces which had come in play. An injurious expression, characterizing Mohammed as a "false prophet," was printed in the leading European journal, "L'Egypte." The *ulemas*, the students in the great religious university at Cairo, complained to the ministers, who upon examining the context concluded that the phrase had been inserted through an editorial blunder. They accordingly deemed an official admonition sufficient. But the religious community were not satisfied, and demanded the suppression of the newspaper, uttering vague threats, which were repeated by the military; until, finally, the ministry revoked their decision, and suppressed the paper.

The regiments which had made the rebellious demonstration were after a season transferred to different posts without making further trouble.

One of the main demands of the nationalist party was for constitutional government and a House of Representatives. In obedience to his new masters, and with the consent of his old ones, the Viceroy called, for the 23d of De-

ember, an Assembly of Notables to be elected by the people, which was designed to inaugurate the representative system, at least in form. The enthusiasm and independence with which the Fellaheen voted for their representatives revealed to the Government, and to the intriguing representatives of the numerous foreign interests and dynastic factions at Cairo, and their principals in the various capitals of Europe, that the liberal political ideas and nationalistic principles of the popular party had taken a deep root in the minds of the ancient race who once bore the torch of civilization, and who have since tilled their fertile valley under the whip of many masters.

The Khedive has interdicted the world-known ceremony of the *Dosseh*. It was celebrated, every year, on the birthday of the Prophet. The accredited version concerning its origin is this: that an illustrious saint, wishing to convince the people of the sanctity of his mission, had the way from his house to the mosque covered with earthen vases; then, mounting his horse, he proceeded to the house of God without breaking one of the pieces. Those who witnessed the miraculous promenade were struck with wonder, and resolved that thereafter the sheik on horseback should pass over a carpet of human bodies. The sacred animal could only sanctify the faithful by the contact of its hoof. On the appointed day, every year, an immense crowd has been accustomed to assemble on the ground where the *Dosseh* is going to take place. English and other foreign tourists have been drawn frequently to the horrifying scene by curiosity. The frenzied devotees, often intoxicated with hasheesh, rush with low cries into the lane through which the horse is to pass, which has been kept clear by the police. They prostrate themselves in the way of the sheik as he sits on a splendid white horse, which half a dozen grooms are hardly able to hold. When the bit is let loose, he dashes across the animate pavement. After the sheik has passed, the fanatics, many of them crushed and wounded, disappear as if by enchantment.

ELECTRICITY, RECENT THEORIES OF. James Clerk Maxwell enunciated the theory that light is an electrical vibration. The theoretical ground for this theory is the explanation which the two states of electric energy, static and kinetic, afford of the vibratory motion of light. Electricity, when passing through conductors or revolving within the poles of a magnet, is a kinetic force, and when dammed back by an insulator is a static force existing in a state of strain. Light is a form of energy which alternates between the kinetic and the static forms. Its rapid motion through a transparent medium is only comparable to the rate at which electricity travels along a conductor. When it is known that the velocity of light is numerically equal to the calculated rate of the transmission of an electromagnetic wave-disturbance, as has been the-

oretically demonstrated by mathematicians, the connection between the two forms of energy, which are found also to touch each other at other points, and to interdepend in many respects, must naturally be supposed to be real and close. That the only known physical forces whose effects are transmitted through such wide media, and at such a high rate of motion, should possess precisely the same velocity constant proves that the phenomena can only be referred to the same source.

Professor Maxwell died before he was able to interpret the true relation between the two great groups of phenomena; but the certainty with which he established that they are the manifestations of one and the same force is the most valuable bequest left by that eminent theorist to the scientific world, which brings it to the threshold of a great advance in physical science. That light and electricity are related was first suspected by Faraday, who labored for years to establish his hypothesis. The only result which his many experiments yielded was the production of luminosity upon the surface of a dense kind of glass containing borate of lead, by exciting a powerful magnet, between whose poles a beam of polarized light had been projected upon the glass, and then interrupted. This experiment was first interpreted many years after by Maxwell and Sir William Thomson, and was the experimental basis of the Maxwellian theory. Many other transparent substances have been found to exhibit the same phenomenon in a less marked degree. A feeble luminosity has been discerned, even in common air, between the poles of a magnet similarly excited. Dr. Kerr has recently experimented in the same manner upon opaque bodies, and has shown that when light passes through a film of magnetized iron, thin enough to be translucent, its plane is rotated. The main fact which suggests an inseparable relation between light and electricity is the identical value of the velocity of light, which has often been measured, and of the constant, which expresses the rate at which a magnetic wave-disturbance would travel, which has been calculated from electric measurements. Maxwell's theory explains the fact noted above, that light transmitted through an active electric conductor must change its plane. It requires that insulators should be transparent, and conductors impervious to light. Even ebonite, the most opaque of electric insulators, has been shown by Graham Bell to be exceedingly transparent to some kinds of radiation. That the co-efficient of velocity of light in a transparent medium should depend upon its electric strain constant is a consequence of the theory. There are certain phenomena which, while showing an intimate connection between light and electricity, have not yet been explained in accordance with the theory. One of these is the remarkable effect of light in reducing the electric resistance of selenium, the light of a candle being sufficient to enhance

its conductive power fivefold. Another is the fact that light generates a current on striking the platinum electrode of a voltmeter.

In further confirmation of Maxwell's electromagnetic theory of light, it has been proved by the experiments of Helmholtz, Fitzgerald, and others, that Fresnel's calculations of the intensity of light, reflected and refracted at the surface of meeting of transparent media, agree with this hypothesis in connection with the one assumed as the explanation of the laws of double refraction.

Professor Sylvanus P. Thompson, Jamin, and other eminent physicists, have formed a conception of electricity which resembles the old belief that it is a fluid substance. Experiments appear to show that in its relations to energy and matter it only acts as a transmitter of energy, and is not convertible into it. The quantity of electricity within a closed surface, it has been demonstrated, can not be increased or diminished without the entrance or outflow of electricity. It is concluded, then, that electricity is a third entity, distinct from matter and from energy, the total quantity of which in the universe is conceived to be constant, as is the total quantity of matter or of energy. It resembles matter in that it requires the expenditure of energy to set it in motion, and, when its motion is arrested, its kinetic energy reappears in the form of heat or an equivalent form. The force with which a quantity of electricity acts upon another varies inversely as the square of the distance between them, as does the mutual attraction of bodies, but the effect is of the nature of repulsion instead of attraction. Electricity may be imagined to be a physical entity which does not possess mass, but yet possesses a quality corresponding to elasticity, and can be the recipient of energy in both the kinetic and the potential forms, and which tends to distribute itself equally throughout space, and exercises a definite pressure on those ultimate particles of matter which it does not penetrate. Under this supposition electricity would fulfill all the functions which are ascribed to the interstellar and intermolecular ether. The hypothesis of the imponderable ether of space may be abandoned in favor of the immaterial electricity which may be assumed to fill all space. Light would then be the vibrations of this elastic but imponderable medium. Heat, or the equivalent forms of energy, are the forms into which light vibrations of electricity change when the vibrations are arrested or absorbed, just as the vibration of matter, when arrested, changes into heat or its equivalents. But it is only the less refrangible rays—that is, the vibrations of greater wave-lengths—which nearly agree in period with the vibrations of molecules, and are convertible into calorific energy. The more rapid radiant vibrations, which produce actinic effects, do not expend their energy in thus intensifying molecular oscillations. Their electro-chemical action is explained by their

alternating displacements of the electricity of space in the surface molecules of a chemical compound which is decomposed by their action, at certain stages of which rapidly reversed electromotive action electrolysis occurs.

While the phenomena of radiant energy and the other problems which have led to the postulate of the hypothetical ether are satisfied by this theory of electricity, all electro-magnetic phenomena can be explained by the supposition of a constant tendency to the equalization of inequalities in the distribution of electricity. Electricity behaves like an incompressible fluid moving along stream-lines with the relative pressures and tensions between the various parts which would belong to such a fluid. A body which contains an excess of electricity or a deficiency as compared with neighboring bodies tends to transfer to them, or they to it, the quantity above or below the average charge. The two conditions of electrification, known as positive or vitreous and negative or resinous consist, according to this hypothesis, of an excess or defect in the electricity contained in a body compared with the ordinary distribution. Which of these states is the surcharged condition has not been determined, though the weight of evidence indicates that it is that called negative and designated by the minus sign, the state of electrification which certainly tends more rapidly toward dissipation or discharge than does positive or vitreous electrification. The so-called minus, or, according to these conclusions, excessive or true plus electrification, is that possessed by the earth relatively to the surrounding space.

ELEMENTS, COMPOSITE NATURE OF THE. The spectroscopic studies of the materials of the sun, of the hotter and the cooler stars, and of the luminous nebulae, have led to the belief that most of the chemical elements, as they are known to us, are compound bodies; and that they are all resolvable, though the means of dissociating their components are beyond human reach, into a very few simple gases, or perhaps into one single ultimate form of matter. In accordance with the nebular hypothesis, which is strengthened by the probabilities of this new theory, the many forms of matter are assumed to have been progressively developed from their ultimate constituents by the changes in physical conditions through which the universe has passed, the condensation and refrigeration of the matter of which cooler heavenly bodies, exemplified by our earth, are composed. The reasons for assuming the elementary nature of the so-called elements are, that they resist all efforts to decompose them, and secondarily that they enter in definite proportions into chemical compounds. The property of chemical stability is manifested in many degrees. Many compound substances combine as radicles and show a close resemblance to the elements in their behavior in certain relations. The building up of homogeneous substances from materials which are themselves complex com-

pounds formed from the union of other compounds, is the usual manner in which the minerals of the earth's crust were formed. The metamorphic combinations through which the chemical constituents of organic substances pass are still more complex. Since the many thousand substances which are found on the earth have been resolved into a limited number of bodies, it may be expected that improved experimental methods will discover the compound character of some of them, and that perhaps whole groups of the present elements will give way to analytical experiments, as did the alkalis and earths which were regarded as primary substances at the beginning of this century. Nor, when the limited means which we possess for overcoming the cohesive force of molecules are considered, can it be taken for granted that any of the supposed elements possess the atomic constitution and physical properties of the substances which composed the solar universe when the solid bodies of the planets and the liquid mass of the sun were dissolved into one fiery, gaseous flux, whose molecular particles developed a heat in their collisions far beyond that of the sun.

Recent scientific speculation conjectures a cold nebular condition anterior to the luminous nebular period. It is supposed that, among the phases through which the stellar systems pass, may be one in which the gaseous matter is dispersed so widely in space that the flying molecules do not impinge upon each other with sufficient frequency to produce the manifestations of heat and light. In that condition the division of matter may have been finer, and its constitution more homogeneous, than when it was drawn together, in accordance with the most universal law which science has established—that of the mutual attraction of bodies—into closer contact. The elements whose existence seems to be best established in the hotter stars and the nebulae are the primary gases of the earth's surface—hydrogen, oxygen, nitrogen. Hydrogen seems to be present in all luminous bodies which have been examined with the spectroscope, where it occupies a position in the outer atmosphere. Nitrogen is the only other terrestrial substance whose presence in the nebulae is ascertained. It has not been detected in the solar spectrum, but this is probably owing to the difficulty of determining the composition of a fused mass enveloped in an atmosphere of incandescent gases. As it forms so large a proportion of the earth's atmosphere, it must be inferred from the nebular hypothesis that it exists in the central body, which constitutes nearly $\frac{99.9}{1000}$ of the total mass of the solar system, unless it also be supposed to be one of the substances which have come into being during the process of cooling. Its presence in the incandescent nebulae, its gaseous nature, and its probable simple molecular constitution, indicated by its light atomic weight, render this an unlikely supposition. The recent discovery of oxygen in the sun illustrates the

difficulty of reading the solar spectrum, and strengthens the expectation of finding nitrogen and perhaps numerous other unobserved bodies in the sun.

The nebular spectra seem to be simpler than those of any of the solar bodies. Besides the two gases mentioned, the only other substance observed which projects a well-defined line is an unknown element whose spectrum resembles that of barium; but the proximity of its line to the barium line is supposed to be purely accidental. This, like the two known substances which have been identified in the nebulae, may be presumed to be a gas of light atomic weight, which preserves the gaseous form at exceedingly low temperatures. In the formation of the solar system from a diffused nebulous mass, the kinetic theory would require that the gaseous materials should rise in temperature as they are brought into closer and closer compass before condensing into liquid forms. The hypothesis is that the unknown substance which has been discovered in the nebulae, or substances if there are more such, was also represented in the solar system when in the nebular state; and that, when the gases were compressed more and more closely around the nuclear mass in obedience to the principle of gravitation, the rise of temperature which attended the process transformed these substances, while the other gases remained stable.

The theory was thus stated by Lester F. Ward in a meeting of the Philosophical Society of Washington: "Prior to the stage in the history of a nebula at which the degree of molar aggregation is sufficient to occasion a great amount of friction among the particles, the temperature of the primary molecular aggregates must be nearly that of space, and it can rise only as increase of density and molar motion increases that friction, and converts material motion into ethereal vibration. Nebulae must therefore possess a long history, of which neither the telescope nor the spectroscope can furnish any record—the pre-luminous period—in which, of course, no gases can exist except those, like hydrogen and nitrogen, which maintain their gaseous form under extremely low temperature. And it may be supposed that during this period other gases may exist associated with these, which, however, unlike them, are unable to sustain the successively higher and higher temperatures which the nebula acquires in its process of condensation and organization into a system, and at certain stages of this process are dissociated and resolved into aggregates of a different constitution, suited to these temperatures. Some of the latter new aggregates would naturally assume the liquid and solid forms at temperatures still high as compared with those to which we are accustomed, and constitute in the cooled-off crust of the planets the various metals and metalloids. In this manner we should have no difficulty in accounting for the

existence of all the elements found on the earth, even if it were positively known that only the lighter gases were present in the parent nebulae." This theory accounts for the presence in the nebulae of a substance not present in the solar system, which is assumed to have once passed through the same physical condition, associated with other substances which are indubitably abundant in the sun and its planets, and for many substances present in the earth, some of which have been detected in the sun and stars, and numerous others of which are probably contained in them, of which no traces are found in the nebular spectra. It also explains how these substances could have been derived from the nebular mass when their existence in a volatile state would necessitate a temperature far higher than can be supposed to have ever prevailed throughout the original nebula. Those elements which have the highest melting and volatilizing points are precisely those which have the greatest atomic weight, and are therefore the most likely to be of composite nature; while those which have the lowest combining numbers, and are therefore more likely to be simple substances, are those which have as a rule extremely low condensing points. Carbon, which, with an atomic weight of 12, assumes solid forms at ordinary temperatures, and mercury, which can be vaporized at a low temperature, while its combining number is in the new system 200, are the only exceptions to this rule. A law in experimental chemistry is, that the increase of mass in the formation of compound molecules is attended with a decrease of stability. Many of the metallic and metalloidal elements combine in larger molecular masses than are possessed by many compound substances. If they are the products of the metamorphosis of lost elementary substances at a time when the heat of the nascent solar system was greatest, they can not be expected to be resolved into their primary constituents by human means. Those of them which are found in the sun may be suspected to belong to this category. Those which are found only in the earth may be compounds formed at a lower temperature. Many molecules of hydrogen, or of nitrogen, carbon, or oxygen, might be contained in a molecule of gold, of platinum, or of lead.

It is consonant with the atomic theory to consider the stability of the elements as only relative. Even the molecule of hydrogen, which is taken as the standard and unit of molecular measurement, may be a superior form of atomic arrangement. There may be substances with minuter and simpler molecules which can not be appreciated by the senses, and do not respond to the physical law of attraction to a measurable extent. The imponderable interstellar ether is matter which is not visibly subject to the influence of gravitation. Possibly there exist atomic aggregates of still lower order. All known substances may have been evolved from antecedent forms

of matter. The process of evolution is seen to go on in all the known forms of matter, and the evolution of matter with an altered molecular constitution would naturally be supposed to have attended the other physical changes in the history of nebulae and their consolidation into planetary systems. The anomalous phenomena of ozone and antozone bring into question the absolute stability of the presumably simplest and most elementary substances. The unknown substance which gives out the green ray in the solar spectrum has been conjectured to be of simpler constitution than any of the terrestrial elements.

In the various homologous series of hydrocarbons the boiling-point of the compounds rises, and their specific gravity increases, with their molecular complexity or increase in molecular weight. The broadest and most securely established general law in chemistry is that substances with the lowest atomicity have the lowest melting-points and the simplest spectra, and that both these functions are in a general way proportional to the combining number of a substance. The hypothesis of variable molecular groupings under different conditions within the so-called elements explains many facts which are now anomalous. It accounts for the irregular vapor densities of some substances. The phenomenon of allotropism exhibited by various metalloids, which is most marked with those which have not been found in the sun, is thus explained. The allotropic substances exhibit complex spectra, and their spectra are often different for the different allotropic states. In passing from one allotropic condition to another, energy is invariably evolved or absorbed, which can only be accounted for on the supposition that it controls changes in the molecular disposition of the atoms. The phenomena of polymerism in organic substances can only be explained by the theory of the variability of constitution of substances known to us as primary. The spectrum of potassium varies exceedingly at different temperatures, and the spectra present a marked analogy to those of hydrocarbons evolved during fractional distillation.

The coincidence of some of the bright lines in the spectra belonging to different metals was first noticed by Kirchhoff. The brightest stars give only a few prominent lines, and these are the same as those which show bright in the spectrum of the solar disk. In Sirius there are only half a dozen well-marked lines. The cold stars, which give a feeble and reddish light, have fluted spectra instead of lines. The fluted spectrum of any substance gives place at higher temperatures to the line-spectrum characteristic of the same substance; and when the elevation of temperature is gradual, the bright lines of an element appear in the same way in which the lines of the constituents of a compound appear, instead of the spectrum of the compound when the latter is broken up. In the laborious spectrum

analyses conducted by Lockyer on the plan of comparing superimposed photographic images, and of eliminating impurities from the spectra studied, it was found in the case of iron, for example, that the fact of a line coinciding with one of some different substance was not an exception but the rule. In the region between 39 and 40, where scarcely any iron lines had before been observed, and only 5 lines in the solar spectrum, the photographic process revealed nearly 300 solar lines and 62 lines of iron, of which latter 44 corresponded in position to lines of other metals.

Lockyer's analytical study of the spectra of different parts of the sun proves that the lines of each substance are fewer and the spectrum much simpler in the hotter than in the cooler regions. The flames or prominences are taken to be outbursts from the interior, and to show the highest temperature that can be examined. The spots possess an intermediate degree of temperature between the storm-flames and the regions which are free from either spots or storms, and which are supposed to be the coolest. The lines of iron, for example, most prominent in the flames are very different from those which show thickest in the spots, and are much fewer. The spectrum of the spots, while varying greatly in the lines seen, is generally simpler than that even which is obtained in the electric spark. The spectra of the spots are not only much simpler than the sun's spectrum as a whole, and the flame-spectra than the spot-spectra, but totally different lines are projected at the transcendental temperatures of the flames. The cause of the difference in the lines is found in the changes observed in the refrangibility of lines due to variations of velocity in the movement of various solar vapors. Tacchini, when watching the two iron lines 4922.5 and 5016.5 in a solar storm, suddenly saw them both disappear, while two other entirely new lines made their appearance in their neighborhood and remained for several months. It is a natural inference that at the unusually intense temperature which then existed iron is decomposed. The lines of iron which are thickened in the spots, those which show bright in the flames, and those which are regarded as the basic lines of the metal, are almost without exception the same lines.

The latest theories of spectroscopy, according to which the line, the fluted, and the continuous spectra form a gradation whose stages indicate the greater or less aggregation of atoms in the molecules, are confirmed by proofs of various kinds. The three types of spectra are not separated by distinct boundaries, but merge into each other and form a continuously progressive series. Compound bodies never give a line-spectrum. Their spectra are either fluted bands or continuous. Some elementary bodies give continuous and fluted spectra at lower temperatures, and at high temperatures line-spectra. Their low-temperature bands can be determined by their absorption spectra,

which are the converse of their proper spectra, the rays absorbed by a body from transmitted light being the same which it emits when incandescent. The theoretical inference is, that the change from one kind of spectrum to another is due to a change in the mass of the individual molecules, their splitting up into smaller molecules or their concretion into larger ones. The absorption spectra of the vapors of iodine, bromine, and the metals silver, potassium, sodium, etc., show fluted bands. The spectra projected by the same substances when rendered luminous by a powerful electric spark are simple lines. The results of Victor Meyer and others, who have recently effected the dissociation of the halogens, and proved that iodine and bromine molecules do separate into smaller atomic aggregates at high temperatures, furnish an experimental confirmation of the theory that the different types of spectra show the relative complexity of the molecules. Sulphur-molecules are known by their chemical behavior to divide into three at the temperature of 1,000° centigrade; and in this condition they project a fluted spectrum instead of the ordinary continuous spectrum of sulphur.

ENGINEERING. On the American Continent and that of Europe some of the largest engineering works ever attempted are in progress, or are about to be begun. The Channel Tunnel from France to England, underneath the Straits of Dover, is the most formidable enterprise; and although large sums have been expended in the preliminary works, and the feasibility of the scheme is reasonably demonstrated, still the promoters may yet reconsider the probabilities of sufficient returns, and the project be again put off into the indefinite future, after a considerable portion of the work has been accomplished. The Arlberg Tunnel through the Alps is another of the gigantic bores through the heart of a mass of mountains which modern engineering makes possible and modern international commerce and intercourse render remunerative. As the mountain-barriers between Western Europe and Italy have been thus leveled, and as those which divide Switzerland and Austria will be leveled by this new tunnel, so it is proposed to pierce the Pyrenees and connect France and Spain by a railroad. The projected canal through the Isthmus of Corinth, a revival of a scheme which occupied the thoughts of engineers and rulers in ancient Greece, is not yet actually commenced, but is one of the newer projects conceived under conditions favorable to success. General Türr, the Hungarian patriot, has received a concession from the Greek Government for the execution of the design, and French engineers will be engaged in the work. The cutting of canals, broad and deep enough to float the largest iron steamships, through every narrow neck of land where such works will materially shorten the main ocean trade routes, is rendered desirable and profitable by

the extent to which the world's commerce has developed, and the conditions under which it is carried on. It needed only the assurance that engineering art is competent to construct a channel through which the tides can wash, and monster steamships float from one sea to another, to give rise to numerous projects of this kind, the advantages of which can be calculated with tolerable precision. The piercing of the Isthmus of Suez, the most necessary to be removed of these barriers, though not the most formidable one, furnished the needed example. Even in the far East a project for a ship-canal is taking shape. It is proposed to dig a canal through the Isthmus of Kra, the narrowest part of the Malayan Peninsula. Such a cutting would shorten the commercial route to China and Japan by more than six hundred miles. The isthmus is about fifty miles wide; but the route of the proposed canal is shortened by natural water-ways on both sides. By utilizing the bed of the Pakchan River on the western coast, and that of the Htassay on the eastern, the length of the cutting which would have to be made would probably not exceed thirty miles. The engineering difficulties are not great, as far as known. The neighboring region is fertile, and contains minerals of value, tin-mines being already established, and gold having been found in promising quantities.

The Arlberg Tunnel was a project of six or eight years' standing, and all the engineers of Austria had been called into counsel as to the best route, when a definite line was decided upon by the Government in 1880, and the work was finally begun. The only outlet for Austrian products has been either over the German lines or Italian lines of railway, so that in view of possible complications, and as a condition of political independence, it was necessary to construct this railway, at whatever cost. The success of the Mont Cenis and St. Gothard Tunnels has encouraged the Austrians to seek an independent outlet by boring through the mass of lofty mountains between Austria and Switzerland. The tunnel will be over six miles in length. It will be completed in about six years. The total cost of the railroad will be about \$18,000,000.

On the American Continent the Panama Ship-canal, which has been vigorously begun, overshadows all other engineering projects now under way. The scarcely less ambitious and more striking design of a ship-railway across the Isthmus of Tehuantepec has not yet been definitely undertaken; but the scheme is more seriously considered, and appears to have a better prospect of accomplishment, than at the time of its first promulgation. The Florida Ship-canal, the Chesapeake and Delaware Ship-canal, and the Cape Cod Ship-canal are the first projects for deep-draught canals which have a prospect of being constructed in the United States. Another ship-railway scheme has been broached as a substitute for the old project for joining the Bay of Fundy and Baie Verte

on the Gulf of St. Lawrence. A railway for conveying vessels eighteen miles across the Isthmus of Chignecto would save the long and dangerous voyage between ports of the United States and ports on the St. Lawrence Gulf and River, which must now be made around Nova Scotia. The Dominion Government has this plan under consideration.

Although in the United States no new canals of importance have been opened for many years, and the impression prevails that inland water communications are destined to be superseded by railroads, in several of the Continental countries of Europe the canal systems are being extended greatly at the present time. In Great Britain no new water-ways are under construction, and the existing ones are owned by the railroad companies, and made entirely tributary to the business of the railroads, even to the extent sometimes of abandoning their operation. Of 4,200 miles of inland navigation in Great Britain, fully 40 per cent have been purchased, leased, or subsidized by the railway companies. The most active country in the extension of water communications is Germany. The Government's plan for uniting by a system of canals the Elbe, the Weser, the Ems, the Rhine, and the Meuse, is maturing. The system, connecting with the canal systems of Belgium, France, and Holland, it is expected will be further expanded and joined to the canals of East Germany by a deep-draught canal which English capitalists have proposed to construct between Kiel and some point on the Elbe.

The Austrian Government is resolved to improve the navigation of the Danube. The opinion prevails in that country that the removal of the obstacles in the Danube would enable Austro-Hungary to compete successfully with America in supplying Europe with grain. The rocks which are called the Iron Gates are to be destroyed by blasting, and rocky obstructions are to be cleared away in the channel of the upper Danube. The Bavarian and Württemberg Governments show a willingness to co-operate with the Austrian, and so improve the river that barges can be towed throughout its whole course. The project of connecting the Danube with the Oder by a canal, which will enable the cereals of Austro-Hungary to be transported to the Baltic, is likewise a favorite one at Vienna. The scheme of digging a canal between the Dniester and the Vistula, and thus establishing a commercial highway between the Baltic and the Black Sea, is favorably entertained by Central European capitalists. The products of the South Russian grain-regions could then be conveyed directly from Odessa to Dantzic, and shipped by way of the North Sea. The estimated cost of such a water-way is \$100,000,000.

In France, Freycinet, when Minister of Public Works, instituted inquiries which led to the conclusion that in that country the business of transportation could be done by water-routes at from one third to two fifths the cost of rail-

road conveyance. On the strength of this information the French Government resolved on the gradual improvement of harbors, rivers, and canals, the total expenditure determined on for this object being \$200,000,000. The scheme of a ship-canal, connecting the Atlantic and the Mediterranean, to save the long and perilous voyage around the Spanish Peninsula, is still under consideration, and has good prospects of being adopted.

The Dutch have been stimulated, by the deflection of the Rhine-trade to Antwerp, to improve and expand their canal system, which has been for centuries the world's model. The States-General of Holland recently voted \$1,250,000 for improving the canal from Rotterdam to the sea, and decided to cut a new canal from Amsterdam to Utrecht, and thence to the Merwede River, near Gorcum. The citizens of Amsterdam propose to construct another one between their city and the Waal, through the Guelon Valley. The Belgians are not disposed to yield up the prize without a contest. The canal at Charleroi is being widened, and a large central canal is to be dug through the whole breadth of the country. The Government is attempting to establish uniformity of gauge in the canals of Belgium.

The great suspension-bridge across the East River, in New York, is nearing completion. The year has seen the approaches substantially finished and the work on the superstructure begun. Nearly all the floor-beams were laid before the close of 1881. The original plans were materially changed during the year, making the bridge five feet wider and four feet higher above the river, with greatly increased strength, to enable it to carry railway-trains of Pullman cars.

The tunnel under the Hudson is progressing rapidly and securely by improved methods, work going on from both shores. Steady progress has also been made in the excavations under Hell Gate for the removal of Flood Rock. Safety in the navigation of New York Harbor and adjacent waters has been largely enhanced during the year by the introduction of iron-hulled passenger and excursion steamers.

The renewal of the suspension-bridge at Niagara is a remarkable feat of engineering skill, as all the parts of the structure were removed and replaced with new, except the cables, which were repaired at the shore-ends, and a new anchorage was made, without any interruption of the railroad traffic. The fact that, after twenty-five years of use, the wire cables and suspenders of this gigantic span were found but very slightly impaired, is a gratifying proof of the security and durability of this type of structure. In 1877 Thomas F. Clarke examined a portion of the strands imbedded in the masonry, and found a few wires corroded. W. H. Paine shortly afterward instituted a more thorough investigation. Tests of the elongation of the cables under a given

moving load, and tests of single wires for tensile strength and ductility, were satisfactory. The strands were cleaned, freed from the wire bands, and opened, with the result of finding them as good as new, with the exception of the outer wires of the outside strands. As the shores were approached only the strands underneath were found to be affected. It was seen that the corrosion was due to the fact that the elongation and contraction of the strands under passing loads had loosened the cement from the outside strands, and allowed moisture to enter. The defective wires were cut out and new ones spliced in. The greatest number replaced at one end of any one cable was 65, the total number comprising each cable being 3,640. The examining commission recommended that the anchorages be re-enforced and that the iron superstructure of the bridge be renewed, and reported that the action of the cables indicated that they were in perfect condition. In the plan which was executed for the strengthening of the anchorages, one anchor-plate in each pit is made to answer for all the four new chains which were fastened, in addition to the old anchor-chains, two to the end of each cable. The new pit is beyond the two old anchorages, at the back of the old wall. The new anchor-chains connected with the upper cables pass in long links in a straight line from the point where they curve down to the anchor-plate to the end of the cables. The chains fastened to the lower cables pass from the same point, in still longer links, on each side of the old anchor-chains of the upper cable to the old lower cable anchorage, where they have to make an upward bend to join the end of the cables. This is secured by fastening the pins of the short links, which succeed to the pins of the old anchor-chain, by stirrups. The pits are 6 feet by 2 feet 6 inches. The anchor-plates are of cast-iron, 5 feet 6 inches square, and strongly ribbed. One pin passes through the plate and the whole eight links of the anchor-chains. The pits were sunk 17 feet deep on the New York side and 23 feet on the Canada side. The chamber for the reception of the plate at the bottom of the pits was 6 feet by 7. In filling up the pits no stone was permitted to come in contact with the chains. In renewing the iron-work of the superstructure, it was decided to use steel for the posts, chords, track-stringers, and lateral rods, and to make all other parts of iron. The new iron beams were first put in nearly throughout. The portion of the new work thus put in weighed 1,100 pounds per running foot. There were 150 feet of the new work finished at a time, which was equivalent, in the middle portions of the bridge, where the work was begun, to about 70 tons of extra dead load on the bridge. The weight of the wooden portions of the old bridge was estimated by John A. Roebling, at the time of completion, at 1,000 tons. Added wood-work and absorbed moisture are estimated to

have increased the weight to 1,228 tons. The new wooden structure, which has replaced it, is estimated to weigh 1,050 tons. A device is applied in the new superstructure for the automatic regulation of the continuous iron truss which is required to render the stays from the tops of the towers to the floors effective. It is necessary that the different points of this truss should remain as nearly as possible absolutely in the same position. The automatic adjustment by which the middle point of the continuous truss is kept from shifting at any moment toward either end, is effected by means of an iron rod stretching along the lower chord from one end of the bridge to the other. The rod is attached at each end to the short arm of a bent lever, at the other arm of which is suspended a narrow wedge. The wedge is held between the end of the chord and the abutment. The iron rod has the same measure of expansion and contraction as the chord, and the lever is so constructed that the wedge will be raised or lowered by the pressure or relaxation of the rod at each change in temperature, so that it will just fit in the space between the abutment and the chord of the truss, thus keeping the center of the truss absolutely stationary and the chord constantly rigid, while leaving full play for the elongations and contractions caused by changes in temperature.

A new iron light-house in Chesapeake Bay, off Cape Henry, is one of the finest structures of the kind. From base to top the height is 155 feet, the diameter at the base 30 feet, and at top 16 feet. There are six stories before reaching the service, watch, and lantern rooms and the roof. The total weight of materials is 1,700,000 pounds, 7,000 pounds of bolts being used in joining the parts. The structure has an octagonal frame of cast-iron and an interior of sheet-iron, cylindrical in shape. The castings of the base and first story are 2 inches in thickness. The sheet-iron lining is $\frac{3}{4}$ inch thick. The iron staircase goes around the cylinder. The light-chamber is a circular steel frame 12 feet in diameter and 9 feet high. The different stories are bolted together through the cast-iron floor-plates, which are $1\frac{1}{2}$ inch thick.

A larger proportion of the ships built on the Clyde in 1881 were made of steel than in former years. The year was one of remarkable activity. No fewer than 261 vessels were launched, with an aggregate capacity of 341,022 tons. In 1880, which showed the largest construction of any year since 1874, the tonnage reached 248,800. The number of contracts on hand gave indications of a still larger construction in 1882.

Professor Raoul Pictet, of Geneva, has been experimenting on an improved model for naval construction. He has worked out a design which differs essentially from the present type of hull, and which in the model promises performances in speed far better than the best-

designed vessels are now capable of showing. He expects to attain a speed of thirty to thirty-six miles an hour. The advantage consists in such an arrangement of the keel as to diminish the resistance of the water to the lowest point. As the speed increases, the prow rises up, and only the sides of the hull and the portion in the vicinity of the wheel are subject to friction, so that the ship will glide over the water, instead of having to push its way through the water.

A new system of mountain-railroad has been invented by a French engineer, M. L. Edoux. It is being employed to establish communication between the watering-place of Caunterets and the baths of La Raillère, whose hot sulphur-springs are much visited by invalids. The springs are not quite a mile distant from Caunterets, and four hundred feet higher. The principle of the hydraulic elevator which is used in buildings is utilized, a mountain cata-ract furnishing the motive power. The car conveying the passengers is raised by five hydraulic elevators placed in towers some forty yards apart, each separate lift being eighty-four vertical feet. The top of each tower is a little higher than the foot of the next one, with which it is connected by an inclined bridge, along which the car is carried by gravity to the platform of the next elevator. The car descends to the station from the top of the highest tower, stopping on a platform which transfers it to the return-track by an automatic arrangement controlled by a hydraulic piston. The downward track winds around the side of the mountain at a very slight inclination, and ends at the second tower from the foot. The last two stages the car descends by means of elevators in the two lower towers and a connecting inclined track.

The inclined railway at the Giessbach, on the Lake of Brienz in Switzerland, is an application of the water-balance system. A descending carriage is made to draw up a second loaded one by means of a steel-wire rope connecting the two and passing over a reversing pulley at the summit, and of an excess of weight obtained from a load of water carried in a cistern in the under-frame. The length of the line is 1,100 feet, the height of the lift 303 feet, the average gradient 28 in 100. The car can carry forty passengers and luggage. It is provided with a toothed wheel and safety-drum. There is but one track, with double rails at the crossing point, the cars being able to turn out without switching from the fact that the wheels of one are flanged on the inside, and those of the other on the outside, of the rail. The weight of the car empty is 5.3 tons; loaded, it is from 6 to 9 $\frac{1}{2}$ tons, demanding a counterpoise of from 7.3 to 10.8 tons, requiring from 1.6 to 5.8 tons of water in the cistern. The maximum speed allowed by the charter is only one metre per second. About one half of its length the track is carried on a wrought-iron bridge of arched trusses.

A plan has been adopted for a circular elevated railroad around the city of Vienna, to pass through all the suburbs and to connect with all the railroads entering Vienna. This will transform Vienna from the most deficient capital in Europe in facilities for local transit to one of the best-appointed cities in the world in this regard. Such a scheme can be carried out with less destruction of property in Vienna than in any other city. It will pass nearly the entire way through waste lands on the bank of the Danube Canal and the river Wien, and the long strip of common along the projected Gürtelstrasse Boulevard. The remaining portion passes through one of the old and squalid quarters of the city. The Franz Josef's Quai Park on the bank of the Danube Canal is chosen as the site of the central station. This is in the very center of the business part of the city. All the other stations are located with reference to street-traffic and the main arteries of circulation. Along the canal the line is carried over ground which is now unoccupied, on an elevated structure which is so high that the approaches to the bridges are in no way interfered with. It crosses the Stubenring on an ornamental viaduct to the left side of the river Wien. As far as the slaughter-house on the opposite side of the city from the central station the road is elevated throughout. Beyond that point it makes a sharp turn, and enters a cutting in the common-land of the Gürtelstrasse. Farther on it alternates between viaducts and cuttings, until near the Lunatic Asylum it is carried through a tunnel about 1,500 feet long. It then proceeds through an open cutting with retaining walls until it leaves the route of the Gürtelstrasse and enters the walls of the city again near the central station. The total length of the proposed Ring Railway is 12.844 kilometres, of which 7.572 is on viaducts supported by iron columns, 0.816 on masonry viaduct, 3.243 in cutting with retaining walls, 0.470 in bank with retaining walls, 0.449 in tunnel, 0.085 in covered cutting, and 0.209 on the level. There are in the plan 19 stations, of which 15 are elevated and 4 sunk. The line is to be double throughout. Branches are to be constructed to form junctions with all the railroad lines which converge at Vienna. The total length of the main circuit and branches together is about 28½ kilometres, or 17¾ miles. In accordance with this plan, every railroad terminating at Vienna will be brought into communication, not only with the central station but with all the other railroads. It will give to each railroad, in addition to its own terminus, 19 stations in the circumference of the city. The present facilities for reaching Vienna by rail are inconvenient in the extreme, but this plan would render them superior to those of any other city. Every part of the city will in like manner be connected with all the other districts and with the railroads. The importance of the connection of the capital by this means with every railway in Austria from

a strategical point of view has commended the scheme especially to the military authorities. The maximum gradient is one in 60, the minimum radius 200 metres. In the neighborhood of the Danube Canal and the river Wien costly foundations will be necessary. It is proposed, where the foundations will be entirely hidden under the surface, to sink shafts, timber them inside, and fill them up with *béton*. The Stubenring and the approaches to the Tegethoff, Schwarzenberg, and Elizabeth bridges are crossed by ornamental viaducts in which the main girders are concealed by light cast-iron arches, so as to render the crossing of such important streets rather an architectural improvement than a blemish on the beauty of the city. The main span of the Stubenring viaduct is 80 feet, the height above the roadway 16 feet 10 inches.

The work on the Arlberg Tunnel is proceeding at a more rapid rate than was attained on the Mont Cenis or St. Gothard. The former was bored at the rate of 1,112 metres a year, the latter at the rate of 1,670, whereas the Arlberg is expected to be pierced at the rate of 2,160 metres a year. The cost as well as the speed of mountain tunneling has been affected by improvements in engineering. Owing to the technical advances, but in a large measure also to the comparative shortness of the bore, the cost per lineal metre of the Arlberg Tunnel is estimated at only \$750, while the St. Gothard cost \$1,250, and the Mont Cenis \$2,000. On the Austrian side the same method of drilling employed in the other tunnels is used. The perforators drill twenty to twenty-five holes at one time, each 1½ to 2 metres deep. They cover a space of seven square metres. With each blast the tunnel is lengthened 1½ metre. The perforators move forward on wheels. The drills work with quick strokes, the impulse being imparted by compressed air at a pressure of five atmospheres, supplied through flexible tubes. The air is compressed by means of turbine water-wheels at the end of the tunnel. On the west side of the tunnel a new kind of perforator is being tried. The drills have each a diameter of 2¼ inches. They pierce the rock with a rotary action given them by means of a water pressure of from 60 to 100 atmospheres. These perforators, with six or eight drills, accomplish equal results with lighter charges of dynamite as the pneumatic perforators with their twenty-five or thirty chisels. After each blast the loosened material must be removed. The work of taking away the excavated material is of equal magnitude as that of boring the rock, and consumes as much time. The smoke of the explosion in the unventilated space makes it a difficult and dangerous task to remove the rubbish after each blast. The miners in the Arlberg have found that they can neutralize the ill effects of the poisonous air to a considerable extent by covering their mouths and nostrils with sponges steeped in vinegar. The work on the Arlberg Tunnel was commenced in June, 1880. By July, 1881, the east gallery

had been driven 1,010 metres, and the one on the west side of the mountain 710 metres. The tunnel is expected to be completed in five years from the commencement of the work.

The ventilation of long tunnels is a problem with which engineers have not yet dealt successfully. The natural mode of ventilation is the outflow of the warm air at the higher opening of the tunnel, and the inflow of cool air to supply its place at the other mouth. As the air within the tunnel is always warmer than the external atmosphere, natural ventilation takes place continually. Differences of temperature, of atmospheric pressure and moisture, and the direction of the prevailing wind, may increase the natural ventilation, or they may impede. A tunnel might be made with a sufficient difference of level at the two ends to insure complete ventilation, were it not that steepening the grade would necessitate the generation of more smoke, and thus aggravate the principal evil which it is sought to remedy. The ventilation of the Mont Cenis Tunnel is most imperfect, because unfavorable natural conditions of the external atmosphere almost neutralize the natural draught, notwithstanding the great difference of level at the two extremities, which is nearly 460 feet. The clouds of smoke which the engines leave in the tunnel roll backward and forward. The mechanical means which are employed to expel them are incapable of securing an effective ventilation. The air-compressing machines barely drive a current as far as the refuge-chamber sufficient to clear it of smoke; and the apparatus tried for pumping out the vitiated air has proved a comparative failure. The natural process of ventilation may be accelerated by either rarefying the air at the upper end of the tunnel, or by condensing it at the other. An artificial method of rarefying the air in the tunnel at the end where the current finds its natural egress has often been tried. Shafts are sunk into the tunnel at each end, and fires are kept burning to heat the air in one shaft, and thus cause an in-draught of fresh air through the other. One objection to this method for long Alpine tunnels is the expense of the apparatus and fuel when it is employed on such a large scale. Another objection is that the radiation of heat from the walls of the tunnel is so great as to render it desirable that the air should not only be renewed, but that it should be as cold as possible. The plan of cooling the air in the other shaft has not yet been tried. Wilhelm Pressel advocates employing this method instead of the other. He proposes to cool the air in one of the shafts by means of falling water. Mountain-streams of icy temperature are always accessible at the approaches of Alpine tunnels. He believes that a fall of about one hundred gallons a second through the shaft would cool the air sufficiently, and create a difference of temperature between the shafts sufficient to establish a current. A difference of 10° centigrade, he

thinks, would effect this object. The mouths of the tunnel and the openings of the shafts would have to be closed at will sufficiently to prevent the disturbing effects of wind on the ventilation. In cold weather the artificial refrigeration would be unnecessary.

The spiral tunnel at Leggestein, completed in the spring, was the first made and the principal one of a number of tunnels of the kind to be bored on the St. Gothard Railway. The plan adopted for the roads leading to the entrances of the great bore was to follow as far as possible the windings of the valleys of the Reuss, on the north side, and of the Ticino, on the south side of the mountain. This scheme of keeping in the valley-bottoms rendered it necessary to carry the line through considerable vertical distances by means of spiral tunnels, in which the gradient is steep and the curve sharp. The Leggestein Tunnel has a gradient of 23 in 1,000, and describes a curve of 300 metres. After leaving the tunnel, the railroad winds around the mountain, passing through a shorter tunnel above. The work of tunneling was exceedingly difficult, as the rock was hard granite, and, owing to the entire absence of water, the boring had to be done by hand. There are two other tunnels of this kind being bored in the Reuss Valley, that of Wellington, which is also bored by hand, and that of Pfaffensburg, each of which is 1,000 metres long. On the Ticino side there are four of these spiral or turn tunnels, from 1,500 to 1,600 metres in length.

The first passenger-train passed through the St. Gothard Tunnel on November 1st; time, fifty minutes. The tunnel exceeds the Mont Cenis Tunnel in length by 8,856 feet, being $9\frac{1}{2}$ miles long. Goeschenen, the northern end, is elevated $3,637\frac{1}{2}$ feet above the sea-level. The tunnel ascends in a gradient of 1 in 171 for 24,600 feet, and then 1 in 1,000 for 4,428 to the highest point, 3,785 feet above the sea. It keeps this level for 1,279 feet, and then descends with a gradient of 1 in 200 for 3,870 feet, and 1 in 500 for 13,792 feet. The station at Airolo is 3,755 feet above the level of the sea. The normal width of the tunnel is 24 feet $11\frac{3}{8}$ inches at the level of the rails, and 26 feet 3 inches, $6\frac{1}{2}$ feet above. The height is 20 feet. The roof is semicircular. The floor slopes with a fall of $2\frac{1}{2}$ per cent from each side to a drain $27\frac{7}{8}$ inches deep in the center. The line has also 52 subsidiary tunnels which, with the main tunnel, have an aggregate length of sixteen miles. There are 64 bridges and viaducts whose combined length form one per cent of the length of the line, while 17 per cent is taken up by the tunnels. The main tunnel is laid with two tracks of 4 feet $8\frac{1}{2}$ inches gauge.

The experimental works on the British Channel Tunnel have proved satisfactory. Two shafts were sunk on the English side, one at Abbot's Cliff, and one at Shakespeare Cliff. From the first a gallery was driven by ma-

chinery, 800 to 900 yards long, and seven feet in diameter. The machines were susceptible of improvement; yet they were already capable of boring sixty-seven yards in a week, at which rate two galleries, seven feet in diameter, could be made to meet in the middle in five years. From the bottom of the Shakespeare Cliff shaft, 155 feet below the surface, another well was sunk 106 feet deeper, passing through the old gray chalk and into the Galt clay, without finding any trace of water. On the French side also two shafts were sunk, and the same favorable results were obtained. The machine with which the tunnel can be bored through the chalk at a much swifter rate than by the ordinary appliances, and which permits the startling project to be entertained as a mercantile venture, is the joint property and invention of Captain English, Colonel Beaumont, and Mr. Pigon. The Southeastern Railway Company, which has contributed the funds for the trial-drift on the English side, has agreed with the French projectors that the trial-work should be extended one mile under the channel from each shore, the headings to be of the same section, seven feet.

The two main headings of the Severn Tunnel, which is being constructed under the bed of the Severn by the Great Western Railway Company, were successfully united, September 26th, after serious difficulties. Both headings filled with water in 1879. The one on the Monmouthshire side was closed up by masses of the loose sandstone through which it passes. The fragments of rock were driven in by water from the adjacent hills which flooded the works. This heading has been bored 11,000 feet from the bottom of a shaft 180 feet deep, and meets the other with only three inches of deviation, although the vibration of the pumps, which had to be kept constantly going, interfered with the fixing of plumb-lines. The headings are seven feet high and seven feet wide. The tunnel will be enlarged to the width of thirty feet, and to a proportional height.

The ancient aqueduct built in the time of the Emperor Augustus, to supply Bologna with water, has been restored through the efforts of Count Gozzadini, and was reopened June 5th. The Roman engineers tapped the Setta near its junction with the Reno, about eleven miles from Bologna, and brought the water to the city in a tunnel running along the banks of the Reno, underneath the hills, and under the beds of the torrential mountain-streams which flow into the river. The tunnel was injured only in the places where the streams had worn down their channels, carrying away the masonry under their old beds, and where the Reno had washed away its clay banks as far back as the tunnel, taking away portions of the aqueduct. The greater part of the aqueduct, when examined before 1864, was found as good as when first constructed. The masonry was as solid as rock. It was of stone and brick, cemented with lime and volcanic sand. The work

of restoration has occupied many years, and has been executed with a skill and thoroughness calculated to make the new work as firm and durable as the old.

A method of destroying garbage by fire has been practiced in Leeds, Blackburn, Warrington, Derby, and other English towns, proving eminently satisfactory, especially in Leeds, which has led the way in these improvements. At Burmantofts, two miles from the center of the city, a six-celled destructor and a carbonizer were erected. The chambers of the destructor, as it is called, were built in brick, lined with fire-brick, and braced together with iron rods. The destructor occupies a space of twenty-two by twenty-four feet, and is twelve feet in height. An inclined road leads down to the top, and another incline from the level of the firing floor to the public road. Each cell is capable of destroying or carbonizing seven tons of refuse in twenty-four hours. The cells consist of a sloping furnace, with hearth and fire-gate covered by a reverberatory arch of fire-brick, with one opening for the admission of refuse, another for the escape of the gases, and a furnace-door for the removal of clinkers. The refuse is emptied on the platform, and shoveled into the cell, falling first on the incline, thence reaching the sloping hearth, whence, when sufficiently dry, it is pushed on to the fire, where, owing to the radiant heat of the firebrick arch, it burns fiercely, the products of combustion being gases, a fine ash, and clinkers. Every cell is provided with an opening large enough to take in infected bedding, diseased meat, etc. The gaseous products of combustion pass through a flue to a boiler, which supplies steam to a horizontal engine driving two mortar-mills. In these mills the clinkers are mixed with lime, and ground into an excellent mortar, which sells readily at five shillings a load; while the tin cans and iron are sold for old metal. No fuel of any kind is required, the cinders and other combustibles found in the refuse supplying all that is needed. The carbonizer is used to convert street refuse and vegetable matter into a charcoal, which sells at the rate of thirty shillings a ton. It consists of a group of brick cells, each having a separate furnace. It is twenty-six feet long, twelve feet wide, and fifteen feet six inches high. The chute is fitted with sloping plates, which project from its sides, and form a kind of spiral ledge, which, near the bottom of the cell, takes the form of a fire-block, resting on a wall which divides the contents of the cell from the gases of the fire. The vegetable and other refuse to be converted into charcoal is filled into this chute in a solid mass, the eaves or ledges forming on their under-side a flue, so that the matter is gradually heated as it slips down the well, until, at the bottom, it is surrounded by nearly red-hot fire-brick. The charcoal is withdrawn at the bottom, and is placed in a cooler worked by the steam-engine, and each cell is capable of treating two tons and a half

of vegetable and street refuse in twenty-four hours.

A design for a steam tug-boat for canals, which has been proved by trials on the Saar coal-canal to be free from the objections to the use of steam in narrow canals, is the invention of Paul Jacquel, of Natzweiler, in Alsace. Steamboats have proved useless on ordinary canals, because the waves which are generated by the screws or paddles injure the banks, and for the reasons that the boats are liable to injury in passing through locks, and that they can not carry sufficient cargo to pay expenses. In Jacquel's system of tug-boats the screw is placed in the body of the boat, and is surrounded by a cylindrical casing which receives almost the entire force of the wash, the water passing out astern in a stream so concentrated in direction that the banks are preserved. The water is fed in through two large channels leading from the sides of the boat. The screw itself in its sheltered position is safe from injury. The boat being a tug, and always drawing the same depth of water, can transport a large train of barges at three or four times the speed obtained from horses. The tug being steered by its own rudder, the use of steering-poles, which are very detrimental to the banks, is avoided.

The removal of Flood Rock, a large reef in the middle of the swift and narrow channel entering New York Harbor from Long Island Sound, is the most important of the Hell-Gate improvements, executed at the cost of the Government, under the plans and directions of General Newton. Flood Rock is a ledge of gneiss of similar composition to Hallet's Point Reef, which was cleared away by undermining it and leveling the remaining portions by a single explosion, which took place September 24, 1876 (see "Annual Cyclopædia" for that year). The work on Flood Rock was begun in 1876, but suspended for lack of appropriations during the year 1878, with which intermission it has been prosecuted continuously. The summit of the reef was at all times above water, although only a small portion was visible. By raising upon it retaining walls and cribs, an area of about a quarter of an acre was built up above high water, which afforded a suitable foundation for the buildings and a hoisting-tower at the opening of the shaft. This was sunk from the apex of the ledge to a depth of about 75 feet. The rock which was removed at the mouth of the shaft was utilized at first to fill a deep hole along shore, and then dumped between Little and Great Mill Rocks, a space 800 feet in length, in order to constitute with them the western jetty which will confine the new channel to be formed by the removal of Flood Rock.

The plan of the excavation is the same as that pursued in the leveling of Hallet's Point. The net-work of galleries and cross-galleries covers five acres. Piers, only sufficient in size and number to support the roof of rock which remains, will be left when the mining opera-

tions are over. These piers will then be drilled and filled with a sufficient quantity of explosives, and the whole mine will be fired simultaneously. The equivalent of 100,000 pounds of nitro-glycerine will be employed in the explosion, according to the original estimate. After dredging away a portion of the *débris* it is expected that a channel 26 feet deep, at low water, will be obtained. The length of the galleries completed at Flood Rock at the end of the fiscal year was 13,528 feet; the quantity of rock removed, 39,608 cubic yards. The mining is expected to be completed at the end of the season of 1883. A considerable proportion of the labor of mining is performed by steam machinery, the most approved modern appliances being employed. The four large boilers on the reef can develop 400 horse-power. They furnish steam to five upright air-compressors, which supply air at a pressure of 55 pounds on a square inch to 30 drilling-machines, as well as to the winding-engine, a ventilating-engine, a shop-engine, two mining-pumps, and other machinery. The length of galleries driven during the fiscal year 1880-'81 was 6,211 lineal feet, and the stone removed amounted to 21,528 cubic yards. During the year 9,823 tons of stone were dredged from Hallet's Point, making the total quantity removed since the explosion 81,907 tons. Over two thirds of the area formerly occupied by this reef, the required depth of 26 feet has been obtained. In the remaining one third there are still places where the depth is not over 19 or 20 feet at low tide. The estimated cost of the remaining works at Hell Gate is \$2,250,000. This comprises the completion of the work at Flood Reef, the removal of Heel-Tap and the North Brother reefs, and excavations on Frying-Pan Rock. From Buttermilk Channel, between Governor's Island, in the harbor, and the Brooklyn shore, which was obstructed by a large shoal, with a minimum depth of $9\frac{1}{2}$ feet at mean low water, about 80,000 cubic yards have been dredged.

The Madras breakwater, constructed of *béton* blocks of 27 tons' weight, was subjected to the force of a cyclone on the 12th of November; about 700 feet of each pier was entirely destroyed, and the topmost tier of blocks throughout their entire length was carried away. The failure of the Parkes plan of construction, under the action of a storm which was not more than half as violent as the one which struck the same shores in 1872, will probably lead to the entire rebuilding of the harbor-works. The 27-ton blocks were swept away like shells. The only part of the works which can be utilized in the reconstruction is the rubble mounds. The blocks of the Colombo breakwater, designed by Sir John Coode, are 50 tons in weight, the piers are half as wide again as those at Madras, and, what is most important, the blocks are set or bonded each nearly one half its length over the neighboring block, and this wall has five joggle

holes running from top to bottom. Parkes pronounced the usual practice of bonding unnecessary, and also placed his blocks on the edge, instead of choosing a broad form and laying them flat, thus exposing as little surface as possible in proportion to the weight to the lateral force of the waves.

In the first excavations for the Panama Canal, at Emparador, the nature of the ground was found to be much more favorable than was assumed in the plans. In making the engineers' estimates it was supposed that a stratum of hard rock would be found underlying the soil at a depth of about 12 feet along the route of the canal. In the first borings the instrument descended to the depth of 37 feet without striking any rock, and then, after penetrating a layer of rock only 6 feet thick, went down to the depth of 64 feet without encountering anything but a mixture of clay and soft stone. The route of the canal from one side of the isthmus to the other has been cleared of trees and other obstructions to the width of from 60 to 90 feet, and 125 miles of paths branching out from the canal route have been constructed. The climate has proved terribly fatal to the skilled workmen and superintendents brought from Europe. The work of excavation was stopped during the rainy season and resumed in October. It has been ascertained that no rock excavations will be necessary between Colon and Lion Hill. At the latter station the steam sounding apparatus showed that the excavation will be in soft clay layers formed by the degradation of a greenish pyroxenic rock. At other places the soundings have revealed to the depth of 80 feet a succession of derived rocks growing softer and softer. The mellow soil has also been found unexpectedly deep along the route.

The work of reclaiming the swamp and overflowed lands surrounding and extending south of Lake Okechobee, opening to cultivation a tract covering 17,000 square miles of the area of Florida, has been undertaken by a combination of Philadelphia capitalists. The State has entered into a contract by which one half of the 8,000,000 acres to be redeemed will become the property of the company. This tract embraces every class of Florida soil, much of it being admirable sugar-land, and contains valuable deposits of hematite ore and marl. Lake Okechobee covers an area of 1,000 square miles. The main feeder of the lake is the Kissimmee River, which discharges 207,360,000 cubic feet of water per diem. The rate of evaporation is one third in excess of the inflow, so that for eight months of the year a large portion of the lake-bed is dry. During the four rainy months the water overflows vast tracts of the surrounding country. The plan of reclamation is to construct a drainage-canal 21 miles in length and 44 feet wide, to the St. Lucie River. The canal is to have a fall of 1 foot a mile, giving a calculated velocity of $2\frac{3}{4}$ miles an hour, and discharging 733,708,800 cubic feet a day. The

plan is similar to the one proposed to the national Government by Colonel Meigs in 1879. The level of the lake is 25 feet above mean low tide. The artificial outlet will greatly diminish its area. In addition to this canal it is proposed to dig another to the Caloosahatchie River, which flows into the Gulf of Mexico, to deepen and straighten the streams which empty into the lake, and to dig lateral drains, and tap the ridges separating the saw-grass from the Atlantic and from the Gulf, thus draining all the extensive tracts of worthless land in that section. The work on the principal canal has been commenced. It is done by steam-dredges, two working side by side and excavating the entire cut as they proceed. They are constructed on the continuous-ladder principle, working like the buckets in a grain-elevator. The quantity of earth to be removed in the main drainage-canal is estimated at 9,000,000 cubic yards. The excavation will cost, according to the estimate of Menge, the designer of the dredges, only two cents a cubic yard.

ENGINES, SOLAR. French physicists have addressed themselves with encouraging experimental results to the utilization of the sun's heat for generating the steam to work mechanical motors. If only a minute fraction of the radiant energy of the sun intercepted by the earth could be directly utilized, it would furnish a superabundant supply of mechanical power for all of man's requirements. When the coal-beds, which represent stored-up energy derived from the sun and preserved from a former geological period, have been exhausted, there remains, so far as science is able to predict, no other abundant chemical source of energy. The current supply of solar heat must then be depended upon. The terrestrial forces of wind and water power, into which a portion of the intercepted radiant energy is converted, will probably remain to the end of time the natural agencies upon which the world must rely for the chief part of its mechanical work. In those parts of the earth's surface upon which the direct rays of the sun beat without remission through the whole year, their heating effect can be converted into mechanical power by means of mechanism of sufficiently neat construction and delicate adjustment. The heat of the sun on the earth is estimated to be equivalent to the melting of a crust of ice 103 feet thick, covering the whole surface of the globe, each year. The greater part of this heat is absorbed by the atmosphere. The average heating effect of the sun's rays, at the level of the ground within the tropics, is estimated to be enough to melt a layer of ice 85 feet in thickness. If the heat falling upon one acre could be entirely utilized in producing motive power, it would give 4,000 horse-power for nine hours a day throughout the year.

Mouchot has experimented many years upon the utilization of the sun's heat as a source of

power for operations requiring an elevated temperature. With mirrors of 80 centimetres diameter, he obtains 400° or 500° centigrade of heat, sufficient for the calcination of alum, the preparation of benzoic acid, the sublimation of sulphur, the distillation of sulphuric acid, for concentrating sirups, refining linseed-oil, making charcoal in closed vessels, and other such processes. His small solar alembics he can use for distilling essences, for heating the sand-bath, and similar objects. The rays are brought to a focus upon the alembic by the concave mirror. The great mirror of Mouchot has a diameter of 3·80 metres. The form of concentrating mirror used at first did not utilize more than 50 per cent of the solar heat. The new form, devised by Abel Pifre, gives back 80 per cent of the total possible heating effect. The older one was conical, while the new form approaches the parabola, the generatrix being a broken line forming three truncated cones, the middle one having its sides inclined to the axis 45°, the same angle as in the simple truncated cone used in the older form. This reflector presents to the sun an effective area of nine square metres. The boiler, holding 50 litres, is brought to a boil in 50 minutes, and the pressure then rises at the rate of one atmosphere every seven or eight minutes. With this apparatus Mouchot has obtained six times the useful effect given by the other. With a steam-engine of special construction, made movable in its bed to correspond to the direction of the reflector, 100 litres of water per minute are raised three metres. A motor of one horse-power has been constructed, the reflector of which has at its opening a diameter of 5½ metres, or an area of incidence of 20 square metres.

EVANGELICAL ASSOCIATION. The following is a summary of the statistics of this Church, as they were published in August, 1891:

CONFERENCES.	Itinerant preachers.	Churches.	Members.
East Pennsylvania.....	83	194	14,805
Central Pennsylvania.....	75	186	11,395
Atlantic.....	20	22	2,195
Pittsburg.....	60	186	7,582
Erie.....	31	39	2,924
New York.....	39	57	4,187
Canada.....	36	74	5,038
Ohio.....	57	134	7,792
Michigan.....	44	72	5,419
Indiana.....	37	98	5,581
South Indiana.....	20	35	2,145
Illinois.....	83	125	10,434
Iowa.....	46	45	3,652
Wisconsin.....	63	134	10,003
Minnesota.....	48	63	4,436
Nebraska.....	14	11	761
Des Moines.....	39	29	3,615
Kansas.....	40	34	3,245
Pacific.....	10	10	749
Platte River *.....	..	..	..
Germany.....	41	19	4,356
Switzerland.....	21	17	3,507
Total.....	912	1,584	113,871

* The report of this conference is included in that of the Des Moines Conference, from which it has been taken and organized.

Number of local preachers, 611; Sunday-schools, 2,016, with 21,773 officers and teachers and 127,557 scholars; number of baptisms during the year, 1,328 of adults and 7,828 of children; probable value of the 1,534 churches, \$3,350,485; number of parsonages, 456, of a probable value of \$431,810; amount of "conference contributions," \$5,313; of contributions for missions, \$92,740; of contributions for the Sunday-school and Tract Union, \$2,773. The increase in the number of members during the year was 1,674.

EXHIBITION OF ELECTRICITY AT PARIS. Among the notable events of the year was the International Exhibition of Electricity opened in Paris, August 11th, in the Palace of Industry, in which the World's Fair of 1855 was held. So rapid has been the development of electrical appliances in recent years, that this great building, with its forty-five thousand square metres of space, barely sufficed for the present display. Indeed, a number of pavilions were erected without its boundaries by numerous exhibitors. The different countries were very fully represented, the largest and most varied exhibit being made by France, which occupied as much space as all the rest of the exhibitors; England, Germany, and America being next in order. While the exhibition was devoted to electrical appliances of all kinds, the chief feature was undoubtedly the large and varied display of electric lighting—the lamps of both the arc and incandescent type, the machines for generating the current, and the many details of a complete system of this mode of illumination. In the main hall, a large rectangle, two hundred and fifty metres long by one hundred broad, all the various forms of lamps were commingled, producing a dazzling glare of light, that rendered comparison impossible. But in the smaller saloons reserved for the different exhibitors, only the special lamp of each exhibitor was shown, allowing of a correct estimate of each form of light. The display of lamps of the arc type was very full, all of the now well-known, as well as a number of more recent, lamps being shown. The interest, however, centered upon the systems of incandescent lighting, examples of which were exhibited by Messrs. Edison, Maxim, Swan, and Lane-Fox. The arc had already made for itself a permanent place, but about the incandescent lamp there was much doubt. This has been very largely removed by the excellent showing made by these lamps at the exhibition, and several prominent electricians, who have looked with great disfavor upon this method of illumination, have in consequence announced their belief that the problem of household illumination by electricity, if not solved, is at least very near a solution. The most complete of the exhibitions of incandescent lighting was that of Mr. Edison, whose system, from the lamp to the conductors, was shown in detail. A thousand lamps, three hundred in the two saloons

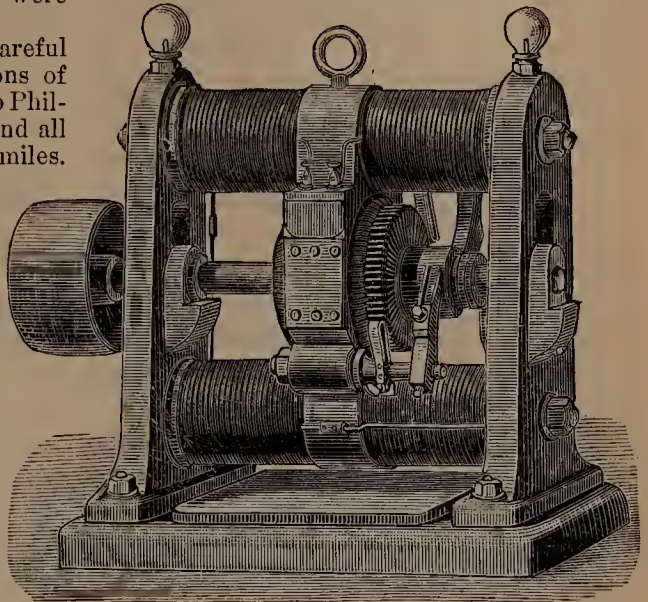
devoted to his exhibits, and the remainder lighting the grand stairway, were operated by his enormous steam dynamo of one hundred and twenty-five horse-power. The Maxim incandescent light was also very fully shown, about two hundred lamps being in operation. The Swan and the Lane-Fox lamp, and the two English incandescent lamps, made good displays, but neither are as complete as the systems of Edison and Maxim.

Outside of electric lighting the exhibition was full and varied, but space can only be given here to a few of the more notable devices, including one or two others which were not illustrated at the exhibition.

Sir William Thomson has made a careful mathematical calculation of the conditions of transmitting water-power from Niagara to Philadelphia, Boston, New York, Montreal, and all places within a radius of three hundred miles. The dynamo-machines of Gramme or Siemens, supplemented by the Faure storage battery, make it demonstrably practicable to transmit the power of water-falls for long distances and use it for mechanical work with less dissipation of energy than in ordinary hydraulic and mechanical contrivances for transmitting power a few hundred yards. He proposes to convey the current by a solid copper wire carried over-head like ordinary telegraph wires. A current of 240 webers can be transmitted 300 miles by a wire $\frac{1}{2}$ inch in diameter, receiving energy at the rate of 26,250 horse-power from dynamos driven by the Niagara water-fall, and discharging it at the farther end at the rate of 21,000 horse-power. The loss of 20 per cent by conversion into heat in the conductor would not raise the temperature of the wire above that of the surrounding atmosphere more than 20° centigrade. The potential of 80,000 volts on the conductor would not render the isolation of the wire difficult, nor would it be dangerous to manage in the central station; but when applied to miscellaneous practical uses it must be reduced to 200 or 100 volts. This can be done by the medium of the Faure battery. A battery of 40,000 cells can be connected directly with the electric main; and at short and regular intervals a small number of the charged cells can be removed and replaced by new ones. Sets of fifty could thus be constantly replaced, and the charged cells placed in connection with the supply circuit. In electric transmission of power high potential is a condition of economy. The idea of the application of water-power at a distance by electric transmission was first suggested by C. W. Siemens in 1877, and has been made the subject of thorough theoretical study by Sir William Thomson, who stated the results of his calculation in an examination before a parliamentary committee on electric lighting in May, 1879, and called the attention of the British Associa-

tion to the subject in an address at the meeting of 1881.

The Gramme machine was the first electro-motive device which proved practically valuable. It consisted of a ring of iron, with a coil of insulated wire wound around its rim, rotated between the poles of an electro-magnet. The leading feature was the commutator, which kept the current always running in the same direction and perfectly continuous, and allowed of the current being used to increase the power of the electro-magnet, besides doing the mechanical work required of the machine. The



GRAMME'S DYNAMO-ELECTRIC MACHINE.

same method of economizing the electricity was worked out by Siemens and Wheatstone; but its development by Gramme first led to the practical use of electricity for the generation of light. Various new modifications of the dynamo-electric machine were shown at the Paris International Electric Exposition of 1881. Surprise was caused among the electricians by the exhibition of electrical machines invented in 1860, and described in 1864 by Professor Pacinotti, of Cagliari, which contain all the essential features of Gramme's later invention and some of the improvements which have been added.

A newly invented machine by Dr. Hopkinson consists of twenty-four fixed magnets arranged in two opposite circles with unlike poles facing each other, between which revolves an iron ring in which channels are cut out alternately on the opposite sides. It thus presents square projections, around which are cores of wound bobbins of wire, whose ends are attached to the arms of the commutator. This device allows the current to be taken from any opposite pairs of arms in the commutator by a number of brushes.

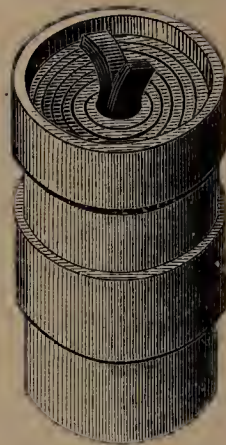
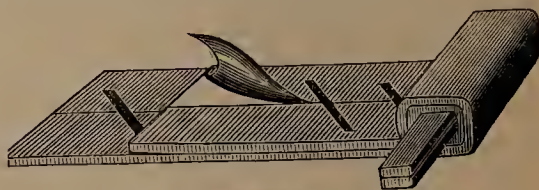
The Bürgin machine has field-magnets like a Siemens machine, and an inside ring, which

differs from that of the Gramme machine in being divided into eight parts. Each of the eight narrow rings, which are hexagonal, is wound with wire, each side of the hexagon serving as a bobbin. This allows the corners of the hexagon to approach more nearly to the field-magnets, increasing the induction. The corners are not placed opposite each other, but each ring is carried a little farther around the axle than the next, so that the current is derived from the forty-eight bobbins in succession. A new form of Gramme machine, devised for the Jablochkoff and similar lamps, which require alternating currents in opposite directions, acts as its own exciter, instead of requiring a separate machine as formerly. The Weston machine resembles a Siemens machine, with field-magnets of the Gramme type. The metal strips of the commutator are twisted spirally.

The improvement of Planté's secondary battery by Faure has occupied the attention of electricians more than any other recent invention, on account of the important useful applications which may be found for a device which stores up electric energy and gives it out again whenever needed in a moderate quantitative current. The condensing battery of Faure has already been applied to useful purposes, such as electric lighting, but its economy and utility are thus far the subjects of theoretical conclusions principally. A Faure apparatus weighing one hundred and forty pounds can store up energy which can be converted into one horse-power of mechanical work continuing for one hour.

Secondary batteries of this type have been made before by Planté and by Ritter, a German electrician. Planté improved upon Ritter's plan by employing lead for the plates. The earliest form of a secondary battery was proposed by Grove in 1841. The principle of a secondary battery is to accomplish a chemical separation by the electrolytic action of the voltaic current of the constituents of a substance, which in reuniting convert into electricity again the energy which had been stored up by the chemical work in a static form. Grove made such a battery by electrically decomposing water. A continuous current was evolved by the spontaneous recombination of the hydrogen and oxygen, but it was exceedingly feeble on account of the limited surface of triple contact between the platinum, the acidulated water, and the gas. Dr. Siemens contrived a gas-battery in 1852, in which greater surfaces of contact were obtained, and a current of considerable power was produced. He used carbon tubes coated with platinum powder. With peroxide of lead instead of platinum better results were obtained and the cost of the apparatus reduced. Planté obtained greater surface and a larger current by rolling two lead plates into a spiral form and separating them by an insulating material. By a peculiar process of preparing the plates he increased the duration of the current. Faure has done

away with this long and elaborate process of formation, and has greatly increased the capacity of the secondary battery. In all secondary batteries the voltaic current produces a chemical change in the plates, which in returning to their original condition generate a current. The material agents by which the storing of



THE FAURE BATTERY.

electric force takes place in Faure's cell are lead, and red-lead or minium. Red-lead is a mixture of equal parts of the protoxide and the sesquioxide of lead. It is formed by passing a current of air over metallic lead at a temperature of 700° Fabr. The sesquioxide in its composition is prone under proper conditions to part with its excess of oxygen, and will be largely converted into the protoxide at a red heat; while the lower oxide has a tendency to take up more oxygen. Faure's battery consists of two plates of lead coated with red oxide, covered with porous felt, and rolled up into a spiral scroll. Two scrolls are placed side by side in a vessel of acidulated water, with a strip of lead projecting from each by which a circuit connection with a battery can be established. When the circuit connection is made with the poles of a galvanic battery or a dynamo-machine, the voltaic current causes a chemical action to take place. The red-lead on the spiral plate which is joined to the positive electrode becomes gradually more highly charged with oxygen and is converted into the peroxide of the metal, while the oxides on the plate connected with the negative pole gradually part with their oxygen and are reduced to the state of spongy, metallic lead. When the battery is charged—that is, when the red-lead is deoxidized on one plate and converted into the highest oxide on the other—the plates can be disconnected from the charging battery, and the chemical work which has been accomplished

by the current preserves in the condition of unstable equilibrium the energy which has been expended in effecting it. The molecular tension is loosed, and the whole store of energy is given back again in the form of an electric current, when the two plates of the cell are brought into metallic connection. The chemical work is then reconverted into electric energy, the peroxidized plate and the deoxidized plate both returning into their former condition, and a voltaic current being evolved while the active exercise of their chemical affinities continues.

Sir William Thomson has designed an automatic device by which, when a Faure battery is connected with a dynamo which supplies the current for a circuit of electric lights, the surplus electricity generated by the machine can be taken up by the accumulator, the circuit between them being made and broken automatically. With this appliance the lamps can be supplied from the battery with sufficient light-giving power for some hours after the machine has stopped. This would not only be an economy, but would avert the extinction of the lights which occurs when any accident befalls the machinery. The high-pressure gas-motors of Otto have been of great service in furnishing power economically for Gramme's electro machines. By mingling illuminating gas and air in proper proportions and under pressure, a quiet combustion and regular expansion are obtained, free from explosive shocks.

The Siemens electrical railway, which has been in use for some time in Berlin, was the first practical application of electricity to locomotion. As in the similar device of Edison, the electric current can be conveyed by the iron rails; but usually it is carried on a wire which is tapped by carriers on the car, setting in motion a dynamo-machine, which actuates the wheels on one side of the car by a chain-connection geared to their axles. The attempt has been made in Paris with the Faure battery to obviate the use of conducting wires, and enable a car to be propelled over any railway by a dynamo fed with the electricity in the accumulator until the stored-up energy is exhausted. The electrical railway-car is a large tram-car. The only feature observable in which it differs from other cars is presented by the couple of wires which travel with it and connect it by running contact with two conductors suspended on posts like ordinary telegraph-wires. The current generated by a stationary dynamo-electric machine is thus introduced into the locomotive and actuates an electro-magnetic machine under the floor, which drives the wheels of the car. In the beginning the rails were used as the conductors of electricity, instead of suspended wires. That plan was practiced on the elevated railway which was built for the Siemens electric cars in Berlin.

Tresca, a well-known electrician of Paris, has experimented on the application of electricity to plowing. With a Gramme machine

making 1,200 revolutions a minute, he plowed a furrow 222 metres long with a double Brabant plow at a velocity of 88 centimetres a second. The effective work was about 3 horse-power. The current was transmitted on copper wires from the generator to two Gramme machines which actuated windlasses. The plowing-machine invented by Menier is propelled by the large form of Gramme dynamo-machine, and is capable of doing the work of eighteen horses. It consists of two electrical locomotives containing large coils of wire rope by which a triple-shared reversible plow is drawn backward and forward across a field. When a furrow has been plowed, the electric machine is geared to the heavy wheels of the locomotive, propelling it forward to the next position; and then the plow is tilted over, bringing the three opposite shares into action, and drawn across the field in the reverse direction.

An electric brake has been invented by a French electrician, Achard. There are two rings of iron on the axle of each pair of wheels, and facing these two larger rings on an independent axle, which are connected with a powerful electro-magnet. The current is generated by an electric machine in the locomotive. The brake is kept from the wheels by strong spiral springs, and the independent axle remains stationary until a current is generated. Then the larger rings are converted into magnetic poles; the attraction of the rings on the wheel-axle causes the magnetic rings to revolve and wind up a chain connected by levers with the brake. The pressure of the brake can be increased or diminished by the engineer through an appliance depending on the principle of variable resistances. Many forms of small motors driven by element batteries have been devised, and the applications of these for sewing, embroidering, and other light work, are often as practical as they are elegant. The most notable of these contrivances are by French inventors. They are of slight account, however, in comparison with the mechanical generation of electricity and its applications. An interesting use of the Gramme machine was shown at Paris in the rock-drill, which rotates under the influence of the dynamo while it is held to its work by a head of water, which, in the Paris water-works, affords a pressure of three atmospheres.

One of the most important improvements in telegraphy is the harmonic telegraph of Elisha Gray, which has been for some time in operation between Boston and New York. A tuning-fork of a certain pitch is kept vibrating at the sending-station by an electric current, which can be intermitted by the key of a Morse instrument. Through the medium of the tuning-fork the circuit of the telegraph-wire is joined and broken at each vibration, and at the receiving-station another tuning-fork is acted upon by the intermittent current, and vibrates at the same rate. When the operator at the dispatching-station touches the

key of his instrument, he stops the current, and the tuning-fork at the receiving-station ceases to vibrate. A spring then draws against the tuning-fork a contact-piece, which is usually kept away by the vibrations. Through this contact a local current passes which causes an ordinary telegraphic sounder to respond to the intervals in the vibration of the tuning-fork by the long and short signals of the Morse alphabet. If another tuning-fork at the sending-station, vibrating at a different rate, is connected with the wire, it will send currents at each of its vibrations, which will act upon another fork at the receiving-station, and cause it to vibrate at the same pitch. This can be connected with an independent battery and sounder. On this ingenious plan as many as five instruments can send messages over the same wire in one direction, and five more in the opposite, as fast as the ten operators can work their instruments, without any interference or confusion.

The multiple type-printing telegraph of Baudot is an ingenious improvement on the printing-telegraphs of Edison and Hughes. In the Hughes instrument there are twenty-eight radial arms connected with a key-board, before which a metal contact-piece rotates rapidly. At the receiving end the inked type-wheel is moving in perfect synchronism, by means of ingenious adjustments, with the clock-work machinery at the other end. When a key is struck, contact is made with the corresponding radial arm, and a momentary current passes, which brings in play the electro-mechanical apparatus at the receiving end, and causes the paper to be lifted instantaneously against the type on the wheel corresponding to the note struck on the key-board. The rapid response of the armature to the current is secured by a new relay arrangement, called the Hughes magnet, in which the armature is kept in contact with the poles, but is suddenly drawn away by a spring when the current passes, and weakens the magnet. In Baudot's system five signals are variously combined to give the twenty-six letters of the alphabet, and five other signs. An arm bearing thirty contact-springs revolves in front of thirty contact-pieces, so that thirty signals can be transmitted at each revolution. Six operators have control of five contact-pieces each. At the receiving end there are six machines, with five electro-magnets and armatures in each, which are set in action by the momentary signal-currents. By an admirable mechanical arrangement the signals are translated automatically, and the proper letters printed evenly upon a strip of paper. A radial arm, rotated about its center, carries five points which press against a flat plate, which pressure prevents the arm from turning upon its axis under the influence of a spring. The points are moved a little to one side or the other by triangles, which are actuated by the armatures. In the plate are depressions, and when all the points strike a de-

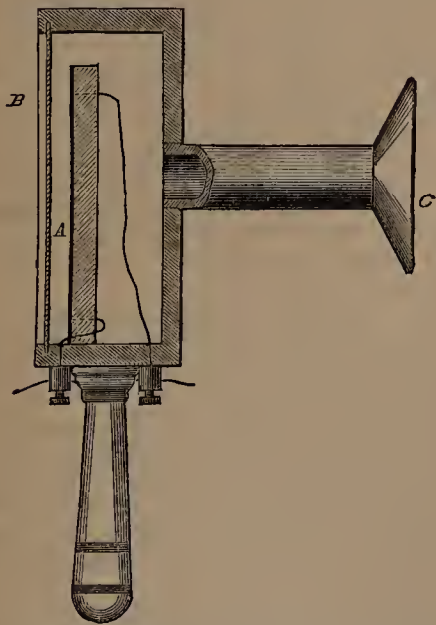
pression at the same time, a partial revolution of the arm about its axis takes place. This causes the revolving type-wheel to impress the letter indicated by the combination upon the paper. It is found easier by the operators to make the combinations themselves on a key-board with five keys, than to use one with a note for each letter and sign. With Baudot's apparatus six messages can be sent on one wire at the same time, at the rate of twenty-three words a minute each.

Autographic telegraph instruments have not yet been found practically useful. They would be a valuable aid in strategic operations, as maps and plans could thus be sent in facsimile by telegraph. The message is written on a surface of tin-foil or other metal, which is connected with the earth. The ink is some substance which acts as an insulator. The tin-foil on which the message is written is given a uniform motion, under a style which has a transverse motion. The marker and the paper on which the message is reproduced have a corresponding and exactly synchronous movement at the other end of the wire. When the style touches the ink on the tin-foil, a current passes. In the instruments of Caselli and D'Arlingcourt the marker is an iron point, and rests upon paper impregnated with ferrocyanide of potassium. This is decomposed by the electric current, leaving a blue mark. Meyer uses ordinary paper and an inked marker, which is brought in contact with the paper by the action of the current. A message of 145 words is reproduced by D'Arlingcourt's instrument in five and a quarter minutes.

Edison's autographic telegraph has several advantages over the other devices of the class, the chief of which is that the sender of a dispatch has no difficulty in preparing his message, as he does when he must write it with a thick, fatty ink, or other unusual materials. Edison's apparatus consists of two instruments exactly alike, in which are two cylinders that revolve synchronously, being actuated by electric motors and regulated by conical pendulums so disposed as to keep perfect time with each other. On the cylinder of the receiver is wound a sheet of chemically prepared paper. The dispatch is written on soft paper with a rather hard lead-pencil. A narrow plate moving slowly along the cylinder is pierced by a hole into which fits a steel point. This point traverses the entire sheet of paper in a spiral line. On the smooth paper it is on a level with the lower surface of the plate; but when it crosses the mark of the pencil it falls into the groove made in the paper. This displacement of the point is made to produce an electric contact and to send a current to the other end, where a blue mark is made on the paper of the receiver every time, and as long as the metallic point is in the depressed track of the pencil.

Of the brilliant series of electric inventions

given to the world within the last few years, none seem more marvelous than the photophone of Professor Graham Bell. This is a telephone in which a beam of light is made to take the place of the metallic conductor. Variations in the intensity of a ray of light, produced by the vibrations of a flexible mirror, or of an elastic membrane with an aperture for the passage of the light, under the influence of sound-vibrations, are made to set up in a telephone wire the same electric vibrations as are conveyed over an ordinary continuous telephonic conductor, and cause the resonant receiver to reproduce the sound-waves. This takes place through the medium of a substance possessing the curious property of conducting electricity under the influence of light, but resisting the passage of the current in the dark. This mysterious phenomenon was observed in the rare element selenium, belonging to the sulphur group, by Willoughby Smith, in 1873. The conductivity of selenium varies exactly in proportion to the intensity of the light to which it is exposed. Bell found that a piece of selenium, acted upon by a continuous galvanic current, and placed in a telephonic circuit, when subjected to rapid alternations of light and shade, produced by a revolving mirror, would cause the telephone receiver to give forth musical tones. Thus, the action of variable light, through the peculiar sensitiveness of selenium, produced the molecular vibrations in the electric conductor which generate sound in the receiver. The note sounded was the



one whose vibrations, per second, is equal to the number of revolutions made by the mirror. This means, by which light, through its variations in intensity, gives rise to sonorous vibrations, was utilized to transmit the effects of sounds, as human speech, and to reproduce the sounds at a distance in the following manner:

An aperture in a flexible membrane was placed opposite an aperture in a parallel fixed plate. Through these two holes a ray of strong light was passed, which was concentrated at the farther end by a concave mirror upon a pencil of selenium, connected with the receiver of a speaking-telephone, and subjected to a continuous current from a galvanic battery. The sound of the voice would produce vibrations in the membrane, whose amplitude and rapidity would cause corresponding variations in the intensity of the ray passing through the two apertures. The effects of these variations on the selenium gave rise to corresponding undulations in the electric current, which were reconverted into sound-vibrations by the receiver. A better mode of affecting the luminous ray by the sound-waves was found to be to reflect the ray to the receiving apparatus with a plane flexible mirror of silvered mica, or exceedingly thin glass, which, responding to the sound-vibrations of the voice, modified by its movements the intensity of the reflected ray. Electric light, as well as sunlight, and even gas- and lamp-light, have been found capable of conducting the sound-generating undulations.

Bell's and Tainter's experiences of the resonance of various substances under the action of intermittent light (see *RADIOPHONY*) suggested the trial of the most sensitive of these substances in a photophonic receiver. Lamp-black, by far the most powerful generator of sound under the influence of the intermittent beam, was accordingly tried, and gave decided results, without the intermediation of the electric current. A photophonic transmitter, with a diaphragm only five centimetres in diameter, reflected a beam received directly from the sun to a smoked receiver, which, at a distance of forty metres, reproduced distinctly words spoken into the transmitter in a low voice.

Dr. James Moser has shown that the action of a selenium photophone is that of a microphone, and is due to the slight and imperfect contact in the selenium-cell, and the changes in resistance are caused by alterations in the degree of contact effected by the absorbed rays of the intermittent beam. These changes, he maintains, are due to the heating and chemical effects of the illuminating rays absorbed.

In telephones proper few changes have been made in the instruments as originally patented by Bell, Gray, and Edison. Bell's telephone consists of a straight magnet, with one pole wrapped with a coil of insulated wire, and an iron diaphragm in front of it for receiving or transmitting the sounds. In later forms, both poles of the magnet are made to act upon the diaphragm. The remarkable invention of the microphone, by Hughes, has greatly increased the utility of the telephone. Hughes discovered that, when pieces of carbon in loose contact, resting upon a piece of wood, are placed in the circuit of a telephone, the very slightest vibrations communicated to the wood are heard dis-

tinctly in the telephone. It was by placing microphones on the stages of Paris theatres, connected with telephonic receivers in the Exposition building, that every sound of an opera could be heard by visitors at the International Exhibition of Electricity, as distinctly as in any part of the Opera-House.

The "pantelphone" of Lochet Labye, a Belgian inventor, is not only one of the simplest microphones yet made, but is one of the most sensitive—transmitting ordinary speech, uttered at distances of thirty or forty yards, and the lowest whispers spoken several feet away. It consists of a plate of cork, six inches by four, hung at one side on two pieces of thin watch-spring, one of which is connected by a wire with a button of hard carbon imbedded in the cork, which is pressed upon by a brass hook working on a hinge. The transmitter is connected in the usual way with a battery and induction-coil.

Professor Dolbear has invented a speaking-telephone in which no magnet is used in the receiver. The transmitter is a form of the microphone. The receiver is formed by two metal plates or diaphragms, electrically insulated from each other, and held parallel in a wooden frame. One of the plates is connected to the telephone-current, and the other to the earth. Being oppositely charged, the vibration produced in one of them by the current sets up audible vibrations in the other.

Dr. Cornelius Herz has advanced a step in the construction of telephones by discarding the magnetic receiver, and disregarding the principle of magnetism. With his instrument he succeeded in conveying audible speech along a wire 800 miles in length. The only battery used was a single Leclanche element.

The electric arc, placed in a vacuum, as was observed by Davy, the discoverer of the arc, becomes elongated, and the carbons are no longer consumed. The experiment has been repeated by Jamin, with results which promise to give a new form to arc-lamps in the future. Gases which have no action upon the carbons—as nitrogen, acetylene, carbonic oxide, and marsh-gas—answer the purpose as well as a vacuum. If the carbons are inclosed in a sealed vessel containing ordinary air, the oxygen is taken up by the carbon, leaving only nitrogen and carbonic oxide in the vessel. The light in the closed vessel is absolutely even and steady. Its spectrum is like that of carburated gas traversed by the spark of a Ruhmkorff coil, or like that of the comet of 1881, as observed by Thollon and others, being the electric spectrum of incandescent carbon-vapor. Whether the carbon is of good or of very poor quality, the flickering, which is never entirely absent in open-air lamps, is avoided altogether. The arc gives a full, distinct, and perfectly changeless light, of a greenish-blue tinge. The red and wavering light of open-air arc-lamps is due to the combustion of the carbons and their inequalities. A single Jamin candle in

the ordinary apparatus lasts two hours, but in the atmosphere of inactive gases, in a hermetically sealed globe, each candle burns 160 hours, and the lamp with five candles burns 800 hours without change or attention.

The mechanical arrangements for feeding the carbons in the arc-lamps are exceedingly various, and are being constantly improved upon. Siemens and Brush have an arrangement by which a pair of carbons that are burned out are automatically replaced by a fresh pair. The Belgian lamp invented by Jaspar is regulated by a magnet within a solenoid which supports the upper carbon, and is raised and lowered by the varying power of the current. The English light of Andrews contains electro-magnets which act upon a clutch holding the carbon. In the latest form of the Gramme lamp there is an arrangement of electro-magnets and clock-work machinery which allows the upper carbon to fall at the rate of only a tenth of a millimetre at each step: one magnet adjusts the carbons at a proper distance apart, as soon as the current begins to pass; and when the main current becomes weaker, that in the second magnet is strengthened and causes the clock-work to move.

Recent improvements in lamps of the semi-incandescent type, exemplified by the candle of Jablochhoff, have been made by Jamin, Debrun, and others. Rods of plain carbon are used instead of kaolin or other substance whose incandescence gave a colored light. Jamin surrounds the rods with coils of wire, with a space between the coil and the candle. The inductive action of the current in the coils drives the light a distance beyond the ends of the candles. Debrun's similar light has an arrangement for instantaneously relighting a lamp which has gone out, by means of a commutator, which causes a piece of carbon to join the two candles establishing the current, which then repels the cross-piece and re-illumes the arc. The *lampe-soleil* is a steady light in which a block of marble is rendered incandescent by the current between the carbons.

The Brussels meteorograph is an instrument which records and automatically telegraphs to a distance, where they are reproduced on a revolving drum, the readings of the wet and dry bulb thermometer, the barometer, the anemometer, and the rain-fall. The drum contains the curves giving the readings of the various instruments every ten minutes, for a period of five days. A Swedish form of the meteorograph records observations at intervals of fifteen minutes, and requires no attention for months at a time.

Four forms of incandescent filament-lamps were exhibited at the Paris Electrical Exposition. The Swan lamp is little more than a repetition of Edison's. The carbon filament is a piece of cotton thread, treated with acid and carbonized by baking in an intensely high temperature. It is burned in a vacuum globe, being attached at its two ends to platinum con-

ductors at the base of the globe, at which point it is considerably thickened. The filament rises above the middle of the globe and is looped at the top. Edison prepares his carbon filament from bamboo-fibers. It is held at its extremities by small copper clips. The British Electric Light Company exhibited a modification of the Lane-Fox lamp. The Maxim and the Edison lights have been described in previous volumes. The material of Maxim's filament is cartridge-paper. Instead of producing a vacuum in the globe at once, he fills it with a hydrocarbon gas, which deposits carbon on the hottest and therefore thinnest portions of the thread, thus making it uniform in strength and thickness. The Maxim lamps have the advantage over the others that they can be used with a powerful or a weak current to produce either a bright or more moderate light. By his ingenious generating apparatus the strength of the current with which the lamps are fed depends upon the number of lamps, so that, if some of the lights in a circuit are put out, the intensity of the remaining ones is not increased.

The International Congress of Electricians settled upon a uniform international standard of electrical measurement. The *volt* remains the unit of electro-motive force, and retains its old value. The *ohm* is also preserved as the unit of resistance, and represents the same quantity as before. The unit of current is the same in value as before, being the current given by one volt acting through one ohm's resistance, although it is no longer called a weber, but an *ampère*. The quantity of electricity transmitted per second by one ampère of current is called a *coulomb*. The unit of electrostatic capacity is the *farad*, which is so related to the other measures that one coulomb in a farad gives one volt; in other words, if a condenser be charged by an electro-motive force of one volt, it has as many farads' capacity as it contains coulombs.

EXPLOSIONS, BOILER, CAUSES AND PREVENTION OF. The mystery that surrounds so many boiler-explosions seems in a fair way of being cleared up by the experiments of Mr. D. T. Lawson, of Wellesville, Ohio, who in June, 1881, succeeded in exploding a boiler of the best construction and well filled with water, conditions which are generally held to secure perfect safety. A number of explanations of boiler-explosions have from time to time been advanced by practical steam-users as well as theorizers, but the commonly accepted explanation—the one held alike by steam-engineers and the general public—is the low-water theory. According to this, an explosion is due to the rapid conversion of the cool feed-water into steam when it comes in contact with the highly heated flues and other metal surfaces of the boiler left exposed to the fire. When in contact with water these parts can not become more highly heated than the water and the steam above it, which is usually not much

above 300° Fahr.; but, if the water be allowed to get low enough to uncover them, they may readily be raised to a red heat (900° Fahr.). If a fresh supply of water be then pumped into the boiler, this, striking the hot iron, will be quickly converted into steam, and it is held that a sufficient pressure may be thus produced to cause an explosion. This theory was pretty thoroughly tested some years ago by a commission appointed by the United States Government, and provided with a liberal appropriation. The experiments, which were begun at Sandy Hook and continued near Pittsburgh, resulted in failure, as the commission was unable to produce an explosion, though a great number of trials were made. No report of the commission has been issued, the only information accessible being the accounts in the daily papers at the time. Mr. Lawson takes issue with the low-water theory, on the ground that but a small quantity of water could be instantly converted into steam by striking the hot iron of the boiler, and this much too small a quantity to produce an explosion. With a larger amount of water the formation of steam would be too gradual to produce the enormous and sudden pressure necessary. In opposition to this theory he advances the one that explosions are due to highly heated water bursting into steam upon the sudden removal of pressure from its surface, and the then as sudden checking of the escape of the steam so formed. This lessening of pressure may be caused either by the sudden withdrawal of steam to supply a cylinder, as when an engine is started; or by suddenly condensing the steam by allowing the entering, comparatively cool, feed-water to strike it. When either of these things happens, the highly heated water bursts into steam, which, having no vent, subjects the boiler to a powerful concussive shock, quite sufficient, Mr. Lawson thinks, to rend it. According to this theory, the force of the explosion not only increases with the amount of water in the boiler, but a considerable quantity is necessary to produce an explosion at all. The results of the experiment undertaken by Mr. Lawson to test this theory seem to very fully confirm it, and it appears to be in entire harmony with what is known on the subject.

As is well understood, the power exerted by an explosive agent is due simply to its rapid conversion by combustion into gases occupying many times the volume of the substance. Now, gunpowder when exploded occupies a volume in the gaseous form but 300 times that of the solid one, and nitro-glycerine but 900 times, while steam occupies at atmospheric pressure nearly 1,700 times the volume of the water from which it was generated. It is evident, then, that if water could be converted into steam instantaneously, it would form a very powerful explosive. Instantaneous action probably never occurs, but it is quite possible that the conversion can take place with suf-

ficient rapidity to produce a concussive effect at least equal to gunpowder, and this is much in excess of what would be required to rend the strongest boiler ever constructed.

The experiment was conducted at Munhall Farm, near Pittsburg, where the later experiments of the Government commission were carried out. The boiler was a plain cylindrical one, six feet long and thirty inches in diameter, constructed of a quality of iron having a tensile strength estimated at 700 pounds to the square inch. The shell was three sixteenths of an inch and the flanged heads three eighths of an inch thick. It was at first intended to make the test by condensing the steam above the water, but, fearing that this could not be done quickly enough, it was decided to use a cylinder. This was connected with the boiler by a two-inch pipe, in which was placed a quick-lifting valve, operated by a cord from the bomb-proof in which the experimenter conducted the test. A steam-gauge, connected with the boiler by forty feet of one-fourth-inch pipe, was also placed in the bomb-proof. The boiler was set up horizontally, and filled with water to within six inches of the top. The fire was fed with petroleum, the supply of which could be controlled from the bomb-proof. A preliminary experiment on June 7th, when the thread was stripped off the bolts of the cylinder-head and the gasket blown out, showed that the steam-pipe to the cylinder was much too small, and a considerably higher pressure than anticipated would be required to secure an explosion. It was decided, however, not to make any alterations, and the repairs being effected, the final and successful experiment was made on the 16th. At 260 pounds' pressure the steam-valve was lifted, with no other result than to cause a violent oscillation of the gauge. This was repeated at 300, 335, and 365 pounds' pressure, with similar results. At 380 pounds, however, there was a loud report, and the boiler was found to be blown to fragments, the air in its vicinity being filled with condensing steam and falling *débris*. There appeared to be no initial point, the boiler going to pieces all at once, as would be the case if subjected to a powerful concussion. The pieces of the boiler found showed that the plates were rent transversely at least four times and torn open their entire length. One of the heads, which were thought to be the weakest parts, was found intact, with a portion of the shell adhering. At the point where the boiler stood, nothing was found except a few broken grate-bars, and the sunken stone foundations. With the experience gained by this trial, Mr. Lawson hopes to be able to explode a boiler of the same strength at a pressure not greater than what would be considered a safe working one, and thus show that the conditions necessary to an explosion by his theory are all present in actual practice. Mr. Lawson has devised a boiler in which the steam compartment is separated from the wa-

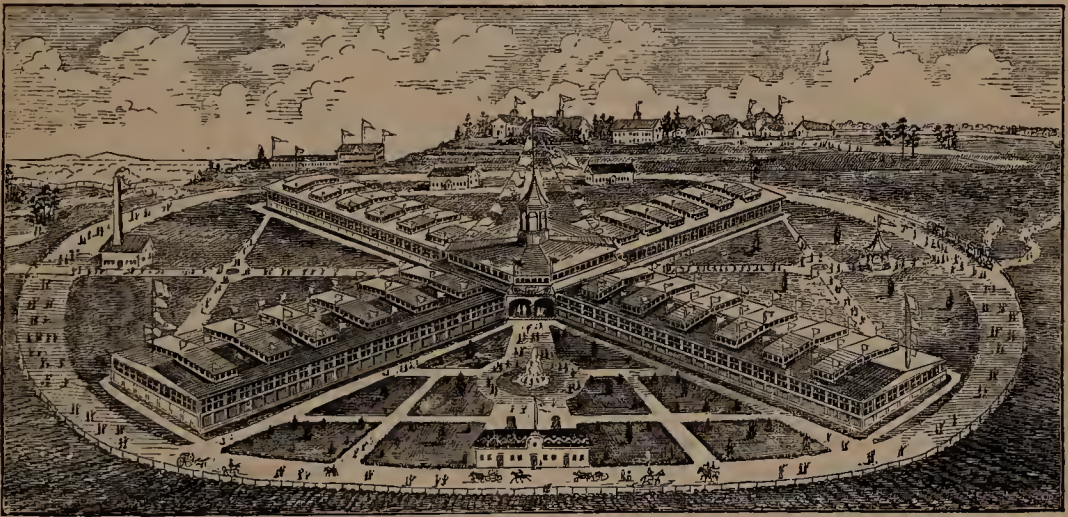
ter by a perforated partition, which he claims can not be exploded. This claim he proposes to subject to the test of experiment after concluding his experiments with ordinary boilers. Whether this test proves successful or not, the experiments so far have been of very great value in showing that the conditions commonly assumed to secure complete safety are fraught with danger, and the need of a reconsideration of the current theories on the subject.

EXPOSITION, INTERNATIONAL COTTON, AT ATLANTA, GEORGIA. In an article written by Mr. Edward Atkinson, of Boston, and published in the "New York Herald," in the autumn of 1880, attention was directed to the serious defects in the existing mode of picking, ginning, cleaning, and general preparation of raw cotton for market; and the suggestion was made that an exhibition of cotton and cotton machinery be held during the ensuing year, at some convenient place, for the purpose of bringing together those interested in the production of cotton and in the manufacture of cotton goods, that they might consult together and devise practical remedies for the defects indicated. Appreciating the importance of Mr. Atkinson's statements and suggestion, a number of citizens of Georgia invited him to visit Atlanta, and make a public address on the matters referred to in his communication to the "New York Herald." Mr. Atkinson accepted the invitation, and, on October 19, 1880, addressed a large meeting in the Senate-chamber, in which he set forth, at considerable length and with minuteness of detail, the present defective manipulation of raw cotton by the producers, how it might be profitably improved, and the great advantages to both producer and manufacturer which would result from the proposed improvements. He recommended that the suggested exhibition should represent everything relating—1. To the growth, fertilization, and cultivation of the cotton-crop; 2. To the manipulation of the staple in every stage of its preparation for market; and, 3. To its manufacture, including all the implements, machinery, mills, fertilizers, etc., requisite for the cultivation, preparation, and manufacture of cotton, and the best and most economical use of power. He further recommended that the exhibition should show the cotton plants and fibers of all countries, and all the varied cotton fabrics, presenting comparisons of the primitive and improved processes employed in cotton manufacture.

On December 2, 1880, preliminary steps were taken by some of the business-men of Atlanta, and other places, to give practical effect to Mr. Atkinson's suggestions; a temporary association was formed, and, in February, 1881, at the instance of a few of the members of that association, Mr. H. I. Kimball, of Atlanta, was requested to visit the principal commercial and manufacturing cities of the North and West, with a view to bring the matter to the attention of the business-men of those localities,

and ascertain their views as to its importance and as to the practicability of the contemplated exposition. The reception given to Mr. Kimball was so encouraging, he found so warm and earnest a response to his request for exhibits and subscriptions, that in April, 1881, the following gentlemen—Joseph E. Brown, Samuel M. Inman, H. I. Kimball, R. F. Maddox, B. E. Crane, E. P. Howell, M. C. Kiser, R. J. Lowry, Sidney Root, C. Wallace, J. F. Cummings, W. P. Inman, J. C. Peck, L. P. Grant, W. A. Moore, G. J. Foreacre, Richard Peters, E. P. Chamberlain, J. F. Wheaton, J. R. Brown, W. H. Young, Thomas Hardeman, C. H. Phinzy, Joseph Sibley, of Georgia; J. W. Ryckman, S. Bates, Richard Garsed, of Pennsylvania; H. Baldwin, of Maryland; James L. Harvey, of Virginia; R. Y. McAden, of North Carolina; William Trenholm, of South Carolina; J. Durr, of Alabama; S. Boyd, O. Bussey, L. Ranger, of Louisiana; Thomas Allen, William

L. Black, W. J. Paramore, of Missouri; Edward Atkinson, W. A. Burke, W. Gray, Jr., George Draper, of Massachusetts; J. H. Inman, Robert Tannehill, of New York; J. H. McMullen, of Maine; A. D. Lockwood, of Rhode Island, and David Chadwick, of London, England—obtained a charter of incorporation under the laws of Georgia, with the name of "The International Cotton Exposition," with a capital of \$200,000, in shares of \$100 each, the object of such corporation being "to hold one or more expositions of the appliances and machinery used in the cultivation, preparation, and manufacture of cotton and other fibers; together with exhibitions of cotton and other fibers and fabrics, and whatever else is directly or indirectly connected with or beneficial to the cotton and other textile interests of the United States and other countries." It was determined that the first of the contemplated expositions should be held at Atlanta,



INTERNATIONAL COTTON EXPOSITION AT ATLANTA, GEORGIA.

Georgia, opening October 5 and closing December 31, 1881. The officers of the organization were as follows:

President, Hon. Joseph E. Brown,* Georgia; first Vice-President, Robert Tannehill, New York; second Vice-President, Governor A. H. Colquitt, Georgia; third Vice-President, W. H. Gardner, Alabama; fourth Vice-President, William C. Sibley, Georgia; Treasurer, S. M. Inman, Georgia; Secretary J. W. Ryckman, Pennsylvania; Secretary *pro tem.*, J. R. Lewis, Georgia; Director-General, H. I. Kimball, Georgia.

Soon after the organization had been completed, books were opened for subscription to the capital stock in Atlanta and other cities, and the required amount was rapidly subscribed.

The chief control and supervision of all the operations and affairs of the exposition was wisely intrusted to Mr. H. I. Kimball, as Di-

rector-General, to whose administrative capacity, untiring energy, and zealous vigilance, the success of the enterprise is largely due. Committees of foreign representation, audit, installation of exhibits, construction, engineering and machinery, agriculture, minerals and wood, publication, transportation, awards, public comfort, admission and protection, were appointed, consisting severally of three competent members, in addition to the Executive Committee of twenty-nine, and the Finance Committee of five members. Hon. H. V. M. Miller, of Atlanta, Georgia, was appointed Foreign Commissioner, and Hon. Thomas Hardeman, of Macon, Georgia, was appointed American Commissioner.

Application was made to the General Assembly of the State of Georgia to make an appropriation in aid of the enterprise, which, though fully appreciating its value and importance, the Legislature was compelled to refuse, because the Constitution of the State does not warrant such a use of the public money.

* In September, Senator Brown having resigned, Governor A. H. Colquitt was elected president.

From the beginning, the newspaper press in almost every State in the Union gave its powerful aid in making known the purposes of the enterprise, and setting forth the vast benefits, social as well as industrial and commercial, which must necessarily result from an exhibition which would bring together the representative men of the great industries of the Union, which would display to the North the almost limitless resources of the Southern States; which would show the South the amazing inventive genius and mechanical skill of the Northern States; and which, manifesting the interdependence of North, South, East, and West, would tend to obliterate the recollections of civil strife and contention, and renew those ties of fraternity and good-fellowship which should unite Americans, to whatever geographical section they may belong. "The grand central idea of the exposition," said Mr. Kimball, "the main shaft to which has been belted every wheel that has worked for its success, is concentrated in the one word, 'improvement'—improvement of the knowledge of the people as to the great resources at their command, as to the best implements and machines which inventive genius has contrived for their development; as to the most approved methods of converting crude wealth into refined wealth; as to the avenues of labor through which they might march out of the bondage of poverty into the freedom of industrial, commercial, and financial prosperity; and, better than all else, improvement of the fraternal and patriotic spirit that is becoming to a people of a common heritage and a common destiny."

Preparations.—All the space had been applied for and allotted before the opening day; but, when that day arrived, there were piles of bales and boxes unopened and unarranged, owing somewhat to the dilatoriness of exhibitors, usual on such occasions, and somewhat to the inability of the railroads to forward them as rapidly as they were consigned. The unexpected number of applicants for space at the last moment made it necessary to provide increased accommodation. The managers generously preferred to inconvenience themselves rather than exclude any exhibitors. Thus, there was much work to be done for a month after the official opening, and during that time the buildings and the exhibition had an unfinished appearance; but the goods were put in position with wonderful rapidity, the work of the carpenters was pushed forward by day and night, so that even the early visitors were not disappointed, or the general effect of the show much impaired. Too much praise can not be given to the managers and their assistants, for the energy, zeal, and system which they manifested in the execution of the arduous and complex task which they had undertaken. Although none of them had any previous experience in the direction of such an enterprise, their good judgment, unwearying devotion, earnest desire to please, calmness and

good temper, in the countless details of their work, received the grateful applause of exhibitors and visitors.

The Opening.—The exposition was formally opened by Governor Alfred H. Colquitt, President, on the 5th of October, 1881, in presence of all the high officials of the State, a number of distinguished visitors, and a vast concourse of people, accompanied by some military pomp. After prayer by the Right Reverend Robert W. B. Elliot, Bishop of Texas, addresses were made by Governor Colquitt, Senators Z. B. Vance, of North Carolina, and D. W. Voorhees, of Indiana, and Mr. H. I. Kimball, of Georgia. Immediately after the conclusion of the addresses the engines were set in motion by Governor Colquitt, Senator Brown, and Senator Vance, the exposition was declared to be formally opened, and the fact announced to the public by the firing of a salute by a battery of artillery.

Buildings and Grounds.—The site selected for the buildings, etc., was Oglethorpe Park, the property of the city of Atlanta, covering an area of between forty and fifty acres, situated about two miles from the center of the city, on the line of the Western and Atlantic Railroad, well laid out and cultivated, and previously used for the fairs of the State Agricultural Society, and of local associations of a kindred character. The close vicinity of this park, its capacity, and its easy accessibility by train and a line of street-cars, gave it advantages possessed by no other site that could have been obtained. The main building, in the form of a cross, planned for a model cotton-mill, and constructed of very heavy timber, was 720 feet long by 400 feet wide, admirably lighted and ventilated, supplied with ample steam-power, consisting of three engines in the main building and one in the agricultural annex, and eight lines of shafting arranged for the operation of all sorts of machinery. It was traversed in its length and breadth by wide aisles, the total length of which was eleven miles, on either side of which, and in the center, the exhibits were displayed. Besides this main building, but connected with it, there were: 1. A hall, called the "Agricultural Annex," 275 feet by 100, in which the agricultural implements and machinery were exhibited; 2. A building known as the "Carriage Annex," 210 feet by 100, devoted to the display of carriages, etc.; 3. Two buildings, set apart for the exhibit of minerals and woods, the respective dimensions of which were 200 by 150 feet, and 100 by 50 feet. Overlooking the main building on the north side of the grounds was the Art and Industrial Hall, 310 by 55 feet, open to the roof 50 feet high, with wide galleries, reached by convenient staircases, devoted to the exhibit of works of art and all sorts of manufactured goods. Close to the Art Hall was a commodious room, 112 by 88 feet, called the "Judges' Hall," capable of seating 2,000, used for the meetings of the judges, and for the vari-

ous conventions and societies which met during the exposition. There were several other lesser and tastefully constructed buildings in different parts of the grounds, the principal of which were the "Florida Building," erected by the State of Florida for the display of the varied products of the "Land of Flowers"; the "Department of Public Comfort," containing offices for the telegraph, telephone, messengers, cigars, newspapers, etc.; and a restaurant, 100 by 53 feet (two stories), containing dining-saloons, parlors, etc. The buildings, covering twenty-one acres of floor-space, were all of wood, the main structure being of sufficiently heavy timber to fit it to be used for manufacturing purposes. The work of construction commenced on May 1st, and on September 1, 1881, the principal buildings were completed.

The cost of the buildings was \$140,000. The steam-pipes (six miles in length), water-supply, etc., cost \$20,000, making the total \$160,000.

The architects were Mr. W. H. H. Whiting, of Boston, Massachusetts, Messrs. Norman & Weed, and Messrs. Fay and Eichberg, of Atlanta. Mr. D. A. Lockwood, of Providence, Rhode Island, was the consulting engineer.

Immediately outside the inclosed grounds were a number of plots planted in cotton at different dates and with every variety of seed, wherein the public could see the cotton-plant in every stage of culture, and could judge of the relative value of the various modes and systems of tillage.

In order to insure the accommodation and comfort of visitors, and supplement the capacity of the city hotels and boarding-houses, the managers built an hotel 330 by 200 feet, close to the park, capable of entertaining comfortably one thousand guests. Besides this, the best citizens of Atlanta made arrangements in their private residences to entertain visitors. Thus, it was computed, ample accommodation was provided for thirty thousand daily visitors.

Classification of Exhibits.—The exhibits were divided into nine departments, which were subdivided into several groups, as follows:

I. Mineral and metallurgical products, divided into five groups: 1. General and State collections; 2. Ores, combustibles, building and refractory stones; 3. Mines, wells, and mining surveys; 4. Metallurgy; 5. Fertilizers. —II. Tools, implements, and machinery, divided into nine groups, viz.: 1. Preparing cotton and cotton-seeds; 2. Textile manufacturing; 3. Tilling, planting, and harvesting; 4. Motors and means of transmitting power; 5. Printing and telegraphy; 6. Breaking and dressing stone, working wood and metal; 7. Furnaces, blowers, and pumps; 8. Preparing agricultural products other than textile; 9. Transportation. —III. Manufactures, general, divided into seven groups, viz.: 1. Collective exhibits; 2. Chemical and pharmaceutical products, soaps, and perfumery; 3. Bricks, tiles, terra-cotta, chemical clay, and glass-ware; 4. Fire-arms, military

accoutrements, and saddlery; 5. Medicinal preparations and surgical instruments; 6. Railway supplies, builders' mill and metal work; 7. Safes, clocks, and ornamental metal-work. —IV. Manufactures, textile, divided into five groups, viz.: 1. Cotton yarn, cloth, and prints; other vegetable fabrics; 2. Woolen, mohair, and mixed goods, woven and felted; 3. Silk and silk-mixed goods; 4. Clothing and millinery; 5. Paper and blank-books. —V. Home and social improvement, divided into five groups, viz.: 1. Furniture and musical instruments; 2. Mirrors and table ware; 3. Heating, cooking, and lighting; water-supply; 4. Education and natural science; 5. Fine arts. —VI. Forest and agricultural products, divided into ten groups, viz.: 1. Forestry and general agriculture; 2. Cotton; 3. Fibers other than cotton; 4. Cereals, forage, and root-crops, sugar and tobacco; 5. Farinaceous and kindred foods, oils, and spices; 6. Animal products other than fiber; 7. Agricultural engineering; 8. Fruits, wines, flowers, and ornamental plants; 9. Cattle, mules, sheep, swine, dogs, and poultry; 10. Dairy products.

The system of awards adopted by the Centennial Exposition was followed substantially by the International Cotton Exposition. Competent and disinterested judges—112 in all—were appointed for the examination of the exhibits in the several departments which were entered for competition, who, after a careful and minute inspection of them, and with a specific statement of an expert before them as to the peculiar merits of each exhibit, awarded the prizes to the successful exhibitors. The "certificate of merit" was considered the highest testimonial of award; but with a view to encourage the collection of minerals, woods, agricultural products, and machinery for the preparation and manufacture of cotton, cash premiums, amounting in the aggregate to \$10,000, were offered to accompany the certificate of merit. In cases where a cash premium of \$100 or upward was awarded, the exhibitor was entitled to receive instead of the money a gold medal of equal value.

The exhibits made exceeded slightly eighteen hundred, embracing apparently every article in the range of American industry from a Corliss engine to a potato-peeler; and yet, though it surpassed in size and importance the most sanguine expectations of its promoters, the exposition did not fully justify its name. It was not "international" in the full meaning of the word. The goods, wares, and merchandise exhibited were exclusively American, with the exception of one roller-gin made in Oldham, England; of some combing machinery of foreign make, included in the large and attractive exhibit of the Willimantic Thread Company; of a valuable collection of foreign cotton fibers collected by Mr. S. M. Inman; and a highly interesting collection of hand-made native fabrics from China and Japan, contributed by Messrs. Russell, of Shanghai, and exhibited by

Mr. Edward Atkinson. This is not attributable to any failure on the part of the managers to invite the participation of foreigners. The character and purposes of the undertaking were made known to the leading representatives of the great industries in all the principal cities in Europe, South America, etc., and, from the cordial recognition of its importance in those countries, it was expected that they would have contributed to its exhibits in sufficient number to justify its being styled "international." The misnomer in this respect is due to the non-realization of reasonable expectations. It was not exclusively a "cotton" exposition, as its title would indicate. It was not intended to be so. It was the first exhibition of any magnitude that was ever held in the Southern States; and, while it was designed not to confine its scope to cotton and the interests germane to it, it was deemed appropriate that it should derive its name from the great staple product which forms the basis of Southern industry. While prominence was given to cotton and everything relating to its production and manufacture, care was taken to embrace all other branches of industry.

Agricultural Implements and Machinery.—The collection of implements for the cultivation of cotton, and of machinery for preparing, packing, spinning, and weaving it, and for the treatment of cotton-seed for every purpose for which it is used, was the great feature of the exhibition. It has never been equaled in variety and number of articles in any former display, and it is doubtful if it can be excelled until the inventive genius of the future shall have outstripped its capacity in the present time. Here were displayed plows of every size and shape for the mechanical improvement of every kind of soil, from the four-horse screw pulverizer of the Maywood Company, of Chicago, Illinois, capable of breaking from twelve to twenty acres per day with one hand, to a depth of seven inches, to the graceful pony chilled plow of the Niles Chilled Plow Company, of Niles, Michigan; universal riding plows, steel plows, sulky plows, chilled plows, subsoil plows, garden plows, adamant plows, pulverizer plows, in apparently endless number. Here were harrows, cultivators, scrapers, choppers, seed-sowers, fertilizer-distributors, seed-drills, manure-spreaders, cotton-pickers, the capacity and ingenious construction of which amazed the farmer, ignorant of their existence and accustomed to the use of the primitive implements hitherto employed in the preparation of the soil and the cultivation of his crops. The sight of these "implements of precision," each fashioned to perform its destined work in the best possible manner, in the quickest time, and with the least expenditure of manual labor, showed him how time, labor, and money could be saved, and the yield of his crops at the same time largely increased. As an evidence of the extent to which the Southern farmers have learned the lesson

taught by this branch of the exposition, the most approved of these implements are being ordered in greater numbers than the manufacturers can supply them. The makers of the Thomas smoothing harrow, of Geneva, New York, received orders from Southern farmers for upward of 1,000 harrows, costing from \$20 to \$22 exclusive of freight. The Chicago screw pulverizer and seeder attracted considerable attention, and when seen in operation was said to fulfill satisfactorily all that its makers claimed for it. Of the machines which could be classed as "labor-saving" in the department of farm implements, this was pre-eminent. With it an intelligent farmer can plant his crops at half the cost of the ordinary plows. It cuts a strip eight and a half feet wide and from three to seven inches deep, dependent on the angle at which the cutting-blades are adjusted. Driven by one man and drawn by four horses, it will scarify and pulverize from fifteen to twenty acres in a day; and when used as a seeder it will sow and cover upward of twenty acres of wheat, oats, rye, barley, millet, peas, and grass-seed. The ease with which four horses can break so much soil is attributable to the fact that the horses draw upon a lever like a wagon-wheel, on the same principle that they can draw a heavier load upon a wagon than on the ground. It is not pretended that the machine will work on wet, rocky, stumpy, or hilly ground. After the crop comes up the machine can be taken apart in two sections, and each section used as a cultivator, stirring and cleaning thoroughly the entire space between two rows of corn or cotton. A special prize of a gold medal, or \$100, was awarded to this machine. The Globe Cotton Planter of the Remington Agricultural Company, to which a similar mark of distinction was adjudged, was also universally commended for the thoroughness, with the least amount of manual labor, with which it performed its work. The collection of agricultural implements suited to Southern husbandry, exhibited by Brennan & Co., of Louisville, Kentucky, was much admired, and public opinion fully justified the award of a gold medal which the judges recommended. The cotton-pickers, of which four were exhibited, showed a great deal of mechanical ingenuity, but practical farmers did not believe that they furnish a reliable substitute for the fingers of the darkey. A cotton-worm-killer, invented and exhibited by Jackson Warner, of Texas, was an ingeniously devised implement, certified by numbers of persons who had tested it to be thoroughly effective in destroying the cotton-caterpillar, army-worm, boll-worm, and other insects which are so destructive of the cotton-crop. The machine, filled with the poisonous liquid, which, unlike Paris-green and other worm-poisons, is not injurious to those who apply it, is strapped on the withers of a horse or mule in front of the rider, and distributes a shower on each side

which is said to be as efficient in the destruction of "blind-worms crawling in the grass," as the miraculous agency of St. Patrick. One man and horse, with this machine, in the course of a day, can kill the worms on a large cotton plantation. The display of cotton-gins was very large. One of the main objects which the exposition was expected to demonstrate was a gin made on the knife-roller principle, which would equal in speed and in quantity of lint the ordinary saw-gin. While one or two proved capable of somewhat higher speed than any roller-gin hitherto seen, none of them came near enough in ginning power to the saw-gin to warrant the belief that they will take its place on cotton-farms. In the vast number of gins displayed, some very simple, some quite complex, in their construction, it was remarkable that the foundation principle of them all is precisely similar to that the invention of which has made Eli Whitney as famous as Watt throughout the civilized world. The modern gin is of course a great improvement on that of Whitney—an exact model of which was exhibited and was an object of much interest—but the scientific principle, though amplified and perfected, is the same. Another anxiously anticipated result of the exposition was the production of a machine which would cleanse cotton thoroughly from the motes, consisting of bits of leaves, bolls, and trash from the field, dust and trash from the gin-house, and which would remove the almost impalpable sand or dust which is found in cotton grown on many soils and does great injury to the machinery of the factory, and which would thus benefit the producer by enhancing the value of his crop, particularly that known as "storm-beaten" cotton. It is estimated that the present rude method of preparing cotton for market costs the producer at the lowest calculation from two to five per cent on his entire crop. In other words, if all the raw cotton were properly ginned and cleansed from the above-mentioned impurities, and then properly packed, so that no rain or dirt from the bagging or yard could penetrate it, the value of the larger part of the entire cotton-crop would be enhanced five per cent to the producer and probably as much more to the consumer. The profit to the latter from well-cleansed and well-baled cotton would arise partly from the saving of time and labor now spent in picking and carding, but mainly from the greater strength of the yarn, which is now much injured by the mechanical appliances employed in factories to remove the trash and dust. Machines to do this important work were exhibited by Joseph Ralston, of Brenham, Texas, and by the Clark Seed-Cotton Cleaner Manufacturing Company, of Atlanta, Georgia. The machines of both inventors were highly approved by large numbers of farmers who had fully tested their merits, and who stated that by their use "storm-cotton" had been enhanced in value from three to four

cents per pound. The display of their power to do what is claimed for them, which was made daily at the exposition in presence of numbers of practical and intelligent planters and manufacturers, proved beyond question that they are of incalculable value. The *modus operandi* in cleansing dirty cotton is to subject it to the action of "beaters" before the fiber has been removed from the seed. The seed with the lint attached, being of greater specific gravity than the trash, dust, etc., mixed with the lint, is detached and carried by the action of the beaters away from the trash, and the trash is deposited in receptacles prepared for it. The judges, believing that the Ralston Cotton-Cleaner is the best that has ever been devised for the accomplishment of the long-desired end, awarded it the "Grand Prize of the Exposition"—five hundred dollars, or a piece of plate of equal value. The Clark machine had also great merit. It was distinguished by the award of one hundred dollars in money or plate. The demand for these machines is now so great that the Ralston and Clark factories will find it difficult to fill the orders already received. An intelligent planter of large experience—an extensive cotton-grower—remarked, when looking at the cotton-cleaner at work, "That machine alone is of sufficient value to pay the South the cost of the entire exposition ten times told." This is no exaggerated estimate. Of the 6,000,000 bales of cotton now produced, far more than 1,000,000 bales are graded as "ordinary" and "low-middling," in consequence of the trash, sand, and dirt which they contain. A machine which would remove this trash, and give to the price of even 1,000,000 bales an addition of one cent per pound, would add \$5,000,000 to the annual value of the crop.

Of cotton-presses with power sufficient to compress a bale of cotton so as to make it impervious to rain or dust, under the rough treatment it receives when in transit between the gin-house and the factory, several were exhibited. One press, that of P. K. Dederick & Co., of Albany, New York, displayed power to compress a bale to forty pounds to the cubic foot, giving it the density of elm-wood, without, as is alleged, any injury to the fiber. The main advantage of this compression accrues to the carrier by land and sea. The good effected by making the bale proof against rain and dust is done away by the increased difficulty caused by compression in removing motes and other trash from the lint. The price of these powerful presses is so great, and it being by no means a settled question that great pressure does not injure the elasticity of the fiber, that farmers in general are not likely to purchase them.

Another agricultural machine well worthy of notice was Kemp's Manure-Spreader. It is a cart with large broad-tired wheels, capable of holding between 30 and 40 bushels of ordinary manure, with a short tongue to connect

it to the front wheels of a farm wagon at the king-bolt. The bottom is movable, which by simple machinery, when in gear, moves slowly between the sides of the body, carrying the manure to the rear, where it meets a rapidly revolving cylinder, armed with strong iron teeth, which tears the manure into shreds and scatters it in an even shower as the team moves forward. It grinds to powder and spreads smoothly all sorts of manure, from the coarsest and wettest to the finest and driest. A simple device regulates exactly the amount to be scattered, and scatters it either broadcast or in the drill, as may be desired. The machine was abundantly tested while on exhibition. The perfect uniformity and speed with which it does its work, render it a very desirable addition to the farm machinery of large farmers, or of any who can afford to pay the price which the manufacturers charge.

Next in interest and in value to the cotton-grower and the stock-raiser were the machines for utilizing cotton-seed—for milling, grinding, and expressing the oil. Previous to 1860, comparatively little was known of the value of cotton-seed, or of the uses to which it might be applied. In many places where the lands were very productive without the use of manure, as in the alluvial lands of the Mississippi Valley, the cotton-seed was either burned or thrown into the river to get it out of the way. Where it was used as a fertilizer it was applied fresh as it came from the gin, or in a half-rotted state. Since then it has been demonstrated that cotton-seed properly treated may be made to yield the best fertilizer, the most nutritious food for stock, and the purest oil for various purposes. Estimating the cotton-crop at 4,000,000 bales—as low as it is ever likely to be—the amount of seed produced is 120,000,000 bushels, or 3,600,000,000 pounds = 1,800,000 tons, worth, at \$12 per ton, \$21,600,000. Worked in a mill, that is, decorticated, the oil expressed and the kernel ground into meal, every ton of seed will yield 60 to 80 pounds of lint which the gin did not detach, fit to make paper; 900 to 950 pounds of hulls; 60 to 80 pounds of oil, and 500 to 600 pounds of meal. It is evident that where the raw seed was applied to the land, which was far from being the general practice, all the above valuable articles were lost to commerce, and the land not as effectively fertilized as by the application of the meal, because the nappy cotton and the hull prevent the access of moisture and retard decomposition, and because the oil is not only not a source of fertility, but an obstacle to the usefulness of the seed as a manure. But if we assume that only 900,000 tons of seed are available for treatment in mills, we then have 54,000,000 to 72,000,000 pounds of cotton, 810,000,000 to 864,000,000 pounds of hulls, 54,000,000 to 72,000,000 pounds of oil, and 45,000,000 to 54,000,000 pounds of meal, thus adding to the wealth of the cotton States about \$30,000,000 annually from what has been, to a great

extent, a waste article. The value of the meal and of the ashes of the hulls as a fertilizer, and of the meal as a stock-food, has been proved beyond question. Within the past few years several cotton-seed oil-mills, some on a large scale, have been started in the Southern States—at New Orleans, Louisiana, at Memphis, Tennessee, at Selma and Eufaula, Alabama, at Augusta, Georgia, and other places, and one is about to be established at Atlanta, Georgia—at most of which the farmers can obtain for their seed their produce in cake or meal, the mill retaining the oil and the hulls. Several cotton-seed hullers and grinders suitable for plantation use were exhibited, whereby the seed is thoroughly decorticated and the kernel ground into meal for stock-food or for fertilizing purposes, of which large numbers were purchased. No machine of moderate price for expressing the oil was exhibited. The necessary machinery for an oil-mill of average capacity costs from \$20,000 to \$25,000; the hullers and grinders from \$75 to \$150. That made by David Kalnweiler, of New York, received the first prize.

If the method of saving green crops, called "ensilage," which has been recently introduced into the United States, though it has been long in use in Europe, proves to be what its enthusiastic advocates claim for it, a sufficient number and variety of "ensilage-cutters" were exhibited to insure the speedy and thorough execution of the cutting part of the work. In the cotton States, where the winter is so short, and where cattle can find abundance of succulent pasture in the woods and canebrakes nearly all the year, the necessity for ensilage, which involves considerable outlay and labor, is not as urgent as in those latitudes where the climate is more severe.

As the limits of this notice of the exposition render a detailed report of the exhibits in every group impossible, and only permit mention of those things which attracted most attention on the part of those for whose improvement the exposition was designed, many exhibits of value and merit must necessarily be passed over. Though it does not come strictly under the head of farm machinery and implements, the barbed-wire fencing material, of which there was a very full display, may be appropriately noticed here. Nothing seemed to interest the visitors more than this, because the belief is growing rapidly that no more expensive, inefficient, hideous, or wasteful fence can be imagined than the prevailing rail- or worm-fence which now disfigures the face of nature; and, further, because economy in the use of the timber that is left in the older States, after so many years of improvident use of it, is fast becoming a generally recognized necessity. A combination of the barbed-wire and plank is the fence which is most approved, it being feared that the slender wire alone, which is hardly visible at a distance, may wound and injure stock. In a period of ten years a well-constructed wire-fence, made of any of the

various forms that were exhibited, will certainly cost less than any rail-fence, without taking into account the loss of land covered by the "worm," or the hindrance to tidy culture which the rail presents.

It has been found of late years that the culture of upland rice might be made a profitable industry, if a cheap hulling-machine could be invented, such as small farmers could afford to buy. The mills used on the large rice plantations for preparing rough rice are very expensive. Two machines for this purpose, of moderate price, were exhibited, which seem to supply the want, and, if this proves to be the case, the growth of rice may be extended indefinitely beyond the lowlands on the coast of South Carolina and Georgia. The rice cleaner and polisher of William C. Howard, of Grahamsville, South Carolina, received the gold medal, or \$100. Mowers and reapers, thrashing-machines, separators and cleaners, of the finest make, were represented in goodly number, and, considering their high price, have been extensively purchased by those farmers who have had the wisdom to increase their crops of small grain and of the grasses, with a view to make their farms self-sustaining. On many farms where, in the past, wheat and oats, barley and rye, grass and clover, were harvested with the old-fashioned cradle, the rapid click of the mowers and reapers seen at the exposition will be heard this year. The display of agricultural implements and machinery may be truly called, as Mr. Edward Atkinson has remarked, "an exhibition of the beginnings of new processes, and for the correction of the errors in old methods—an exhibition of the potentialities of the future," and in this consists its value to the agriculturists of the South.

Minerals and Woods.—No department of the exposition exhibited so forcibly the wondrous nature and extent of the material resources of the Southern States as that devoted to the display of minerals and woods, collected chiefly by the leading railroad companies. Here were collected, as Mr. Killbrew (in charge of the department) remarked, "every mineral that contributes to the arts and every variety of timber which grows between the St. Lawrence and the Gulf of Mexico." These specimens of the products of the mines and forests gave undeniable and tangible proof of the practically limitless and hitherto undeveloped resources of the South, so that it is reasonable to expect that in the near future a quickening impulse will be given to all kinds of industrial development to which this region has until now been a stranger. A detailed description of the ores and woods would far exceed the limits of this notice. The collection of minerals, of forest products, and of hard and ornamental and useful woods, presented by the Richmond and Danville Railroad Company, received the highest prize—certificate of award, and cash premium of \$200. The collections by the West-

ern and Atlantic Railroad of Georgia; by the Great Northern and Texas and Pacific Railroad; by the Louisville and Nashville Railroad; by the Georgia Pacific; and by the Nashville, Chattanooga and St. Louis Railroad, though not as large as that of their more successful competitor, were equally interesting and instructive, and received appropriate commendation from the judges. The richness and comprehensiveness of their displays, gathered and prepared in great haste, surprised the railroad managers who made them. These various collections of minerals and woods will not be scattered. They will be permanently preserved and enlarged. That of the Richmond and Danville Railroad has been removed to Richmond, Virginia, where it will constitute a valuable illustration of the mineral and forest wealth of the States which that road traverses. That of the Western and Atlantic Railroad has been moved to Washington, where it will be arranged in the Museum of the Department of Agriculture. A large portion of the other exhibits has been moved to Athens, Georgia, to be placed in the Museums of the State College of Agriculture and the Mechanic Arts of the University of Georgia.

Steam-Engines, etc.—The display of engines, and of the implements and apparatus used in connection with them, was large and of great variety as to shape and power, but there was nothing specially new in their construction or application. The traction-engines from Aultman & Co., Canton, Ohio, and Gaar, Scott & Co., Richmond, Indiana, and other manufacturers, and the vertical engines of one, two, three, four, five, six, eight, ten, and twelve horse-power, from the New York Safety Steam-Power Company, New York (the latter received the highest award), were among those most worthy of particular notice. It is gratifying to observe the extent to which steam is taking the place of horse-power in the work of the farm wherever it is applicable. There were several steam saw-mills, with gang-saws, circular saws, band-saws, etc., the machinery of some of which was in action, which were much admired for their speed and precision. Those of Lane & Bodley, Cincinnati, Ohio, were awarded the gold medal. There was also a fine display of machinery and tools for breaking and dressing stones, and for working wood and metal. The machine for the manufacture of steel-barbed fence-wire was the most noticed, from its novelty, and that of the industry which it has created. In the group designated "transportation," including pleasure-carriages, phaetons, buggies, etc., etc., the exhibit was meager and unattractive. Under this head were exhibited coffins, undertakers' supplies, metallic caskets, described as "ornamental," "full ornamental," and "half ornamental," which seemed to justify the description. In classifying the means of transportation, it was appropriate to begin with the baby-carriage, of which there were many specimens, then pass

to the pleasure-carriage, and wind up with the "full ornamental metallic casket."

Manufactures, Textile.—This department included cotton yarns, cloth, and prints, and other vegetable fabrics, from the gossamer muslin to the coarsest unbleached homespun, from the finest lace to tent-canvas, from the most attenuated spool-thread to cable-rope. The exhibits of the Northern factories were as fine as could be expected. They represented everything that cotton is capable of producing under the application of the highest inventive genius and mechanical skill. While every one admired, no one was surprised at this display. But every one was surprised and gratified by the excellence and wide scope of the productions of the Southern cotton-factories which were exposed. They did not present anything comparable in size with the immense exhibit of the Willimantic Linen Company, the largest at the exposition, and the one which presented, perhaps, the best view of all the details of cotton machinery; but in the substantial of "cotton goods"—sheetings, shirtings, drillings, prints, yarns, muslins, jeans, and cotton blankets—the Wesson Mills, of Mississippi; the Augusta Factory; the Summerville Mills, of Augusta, Georgia; the Eagle and Phoenix Manufacturing Company, of Columbus, Georgia; the Alabama and Georgia Manufacturing Company, of West Point, Georgia; the Roswell Manufacturing Company, of Roswell, Georgia; the Langley Mills and the Piedmont Mills, of South Carolina, proved that they had made giant strides in the race with their older and wealthier rivals in Lowell, Fall River, and Providence. This was a cheering manifestation of the "potentialities of the future," and encourages the hope that the *esse* of 1892 will fully realize, if not surpass, the *posse* of 1882 in the estimate of the most sanguine.

The Chinese and Japanese fabrics and garments exhibited by Mr. Atkinson in this department, showing the coarse, rude material and clothing used by nine tenths of the teeming population of China and Japan, were of extreme interest, and suggested another "potentiality" of immense proportions, interesting alike to the cotton-grower and to the cotton-manufacturer, when the machine-made cloth of the United States shall be more generally worn than at present by the 400,000,000 of China and the 40,000,000 of Japan. It is estimated that in both of these countries each person needs twenty yards of cotton cloth every year, making 8,000,000,000 yards needed for China, and 800,000,000 yards for Japan. Statistics show that only 641,760,960 yards of cotton cloth are exported to China, enough to clothe 32,088,040 people, thus leaving 368,000,000 to be clothed with the native handloom cloth, which is not only vastly inferior in quality, but costs more than the machine-made cloth of our factories.

The display of silk, spun and woven, was worthy of note, especially the exhibit of Mc-

Kittrick, Wallace & Co., of Memphis, Tennessee, showing "raw silk, spun silk, silk floss, woven silk, twisted silk, silk-worms spinning silk, silk cocoons, silk butterflies, silk-worm eggs, and silk-worms feeding, all made, raised, and cultivated in the South." It is said that silk-worms will feed and thrive as well on the leaf of the Osage orange as on the leaf of the celebrated *Morus multicaulis*, which created so much excitement at the South several years ago, and that the worms that make the wild silk of Northern China feed upon oak-leaves of the same variety of the genus *Quercus* as that which grows luxuriantly on the mountains of Virginia.

The number of the machines for textile manufacturing was legion—cotton cards of all sorts, looms of every variety, spinning-frames, spindles, spoolers, reels, threaders, shuttles of every kind, with a full display of sewing-machines, whose peculiar merits were deftly displayed by operators of remarkable skill. The button-hole machines of the American Button-hole and Sewing-Machine Company, of Philadelphia, were especially noticed.

Miscellaneous.—In the groups of the departments comprising printing and telegraphy, breaking and dressing stone, furnaces and pumps, chemical and pharmaceutical products, soaps and perfumery, bricks, tiles, terra-cotta and glassware, fire-arms, etc., railway supplies, etc., the exhibits were numerous and interesting, but there was nothing among them specially new or remarkable.

The Art-Gallery.—The works of art, properly so called, in this department, were not numerous, and of no marked merit. The portraits of General Oglethorpe and of James Habersham, exhibited by John Milledge, Esq., grandson of Governor Milledge, were interesting in an historical point of view. There were some good steel engravings, and a very creditable display of photographs, mostly portraits of local celebrities, displayed by C. W. Davis, of Athens, and C. W. Motes, of Atlanta, Georgia. Some sets of mantel-tiles, and a terra-cotta group from the Franckelton China Decorating Works, Milwaukee, were much admired and received the highest award. The antiques and art-bronze of Sypher & Co., of New York, were equally distinguished by the judges. The display of watches, clocks, jewelry, precious stones, and silver-ware was rich, and always attracted a crowd of admiring gazers. The Jacquard Jewelry Company, of St. Louis, Missouri, made the largest and most costly show. A set of silver-ware manufactured by them for presentation to Mr. Parimore, of St. Louis, was more massive and elaborate than elegant. They also exhibited some graceful specimens of *repoussé* work. The jewelry was pretty, and the setting of precious stones would compare favorably with that of any other house in the United States. The exhibit of watches was exclusively American, some made by J. P. Stevens & Co., of Atlanta.

Watches of all shapes, sizes, and movements were to be seen, from the finest gold-incased chronometer to the five-dollar nickel watch, of one of which every colored man of any pretension to refinement strives to be possessed. The Waltham Watch Company made a fine display. Their watches not only excel the old hand-made timepiece in cheapness, but in the uniformity which machinery gives to all their parts, as well as in the simplicity and perfection of their construction. A number of new improvements in watchmen's time-detectors were exhibited. In a prominent place in this hall was a case of artificial limbs of ingenious mechanism, which was doubtless interesting to the number of armless and wooden-legged soldiers of the "lost cause" who visited the exposition. Of *articles de luxe* the number was very small, and it was, perhaps, better that it was so, as the object of the show was strictly utilitarian. The Ralston cotton-cleaner was, *par excellence*, the work of art which represented most fully the purpose of the enterprise, and which was best suited to the wants of the people for whose benefit it was intended. There were several exhibits of pianos, organs, and other musical instruments, the pianos of Knabe and the organs of Carpenter, of Massachusetts, being adjudged of the highest merit.

Agricultural Products.—This was a full and thoroughly representative exhibit of the agricultural resources of the Southern States. Cotton, corn, wheat, oats, barley, rye, buckwheat, rice, sugar-cane, sorghum, tobacco, sweet-potatoes, Irish potatoes, hay, cotton-seed, grass-seed, small seeds of every kind, were displayed in seemingly endless variety and in every degree of excellence. Oranges and lemons from Florida, surpassing in size and flavor those of tropical climes; canned and preserved fruits, from Thomasville, Georgia, equal in color and faultlessness to those of Pennsylvania and New Jersey; and wine from Thomasville, Georgia, from Nashville, Tennessee, from Fayetteville, North Carolina, and from Greenville, South Carolina, which, if it did not rival the vintages of France, Spain, and the Rhine, showed that ere long wine-culture may become one of the leading industries of the States which furnished these samples of their present skill. Cotton, as was natural, was pre-eminent in this display. Its majesty was fully recognized. Georgia's display was the largest, but Alabama, Arkansas, Texas, Louisiana, Mississippi, Florida, Tennessee, South Carolina, and North Carolina, were admirably represented. The contest for the great prize of \$1,000 was very close. It was hard for the judges, as they passed from the examination of one bale to another, to decide which excelled in fineness and length of staple, or in unspotted, creamy purity. As one looked on this aggregated excellence and remembered the part this staple product now plays, and may yet play in ministering to the comfort of the human race, obeisance to King

Cotton became irresistible. The conditions of the first prize were that the cotton should be other than long staple, the growth of 1881; that it should be ginned and baled in the usual way; that the lint should not be hand-picked from the seed, or carded; and that no bale should compete which had not won the lower prize of \$100 adjudged to the best bale from each of the competing States. There were thus nine competing bales, each of which had received a prize of \$100, namely: From Georgia, property of W. S. Sanford; from Alabama, W. S. Brock; from South Carolina, F. A. Schumpert; from Tennessee, Porter, Taylor & Co.; from Arkansas, M. B. Garrison; from Louisiana, L. Steeve; from Texas, B. F. Oakum; from North Carolina, M. McGehee; from Mississippi, Watkins & Houston. The Mississippi bale, raised near Panola, carried off the richest prize of the exposition. For the best bale of upland long staple Mississippi received the prize of \$300, that being awarded to the bale exhibited by J. B. Allen, of Vicksburg. For the best bale of Sea-Island cotton, W. J. Epperson, of Florida, was awarded the prize of \$100. Prizes were offered also for the best twelve stalks of cotton other than long staple, and for the best twelve stalks of upland long staple. This was, to the general observer, a more interesting competition than that of the bales, as it enabled those who were unfamiliar with the cotton-plant to see it in all its parts—stem, root, leaves, bloom, fruit, and seed. In this contest, a lady, who manages her own farm and is a very successful planter, won the prize. Her name is Miss Sallie McRae, of Walnut Grove, Georgia. Some bales of dressed hemp, of excellent quality, were exhibited, and one of them from Florida. There was also a bale of dressed jute, to all appearance as good, in every particular, as that imported from India. Here is another "potentiality." At present, the greater part of the bagging used in baling cotton and for other purposes is of foreign growth and manufacture. When it is seen that as good an article can be raised and made at home, and at far less cost, the industry and capital will not, it is hoped, be wanting to utilize this fiber. It is claimed, too, for jute, that when it is planted round a cotton-field, cotton is perfectly protected from the caterpillars. It is supposed that the peculiar odor of the juice of the stalk repels them. There were several fine specimens of the hair of the Angora goat exhibited by R. W. Scott, Frankfort, Kentucky, which warrant the hope that this will soon assume an important place among American fibers. It was also proved that the successful culture of the olive on a large scale is among the not remote possibilities. The display of small grains, fruits, etc., was very full and gratifying. Kansas erected a trophy in the form of a pagoda, thirty or forty feet high and ten or twelve feet square at the base,* in which were

* These dimensions were not ascertained by actual measurement.

arranged, with admirable taste and skill, samples of the products of her fields, gardens, and orchards. The gentlemen who planned and executed this attractive feature of the exhibition, at considerable cost of time and money, were universally commended for their public spirit, and for the originality of the design of their display.

The large number of samples of cotton raised in India, Ceylon, Burmah, China, Java, Siam, Egypt, Australia, and a number of other countries in the East, the Indian Ocean, and the South Pacific, exhibited by Mr. Atkinson, were closely examined, and attracted much interest, chiefly because they seemed to satisfy the cotton-growers who inspected them that the supremacy of the cotton raised in the Southern States is assured, by comparison with these specimens.

Special Weekly Exhibitions.—During the exposition there were a number of special exhibitions, which lasted for a few days, and created considerable interest: on the 25th of October, a display of fruits and flowers, which did not give an adequate view of the floral and horticultural wealth of the South; on November 1st, an exhibition of cattle and mules; on November 8th, one of sheep and swine; on November 15th, a bench-show of dogs; on November 22d, a show of poultry; and on November 29th, a display of dairy products.

The opportunity afforded by the large concourse of people at the exposition was used to hold several conventions for special purposes, the largest and most important of which was the Convention of Planters, held in November, which was largely attended by representative men from every State. There were also several meetings of manufacturers, merchants, etc., and a National Association of Exhibitors was formed, which met frequently while the exposition was open.

The Legislatures of Kentucky, Tennessee, and South Carolina came in a body to visit the exposition; a number of Governors of States, several United States Senators, and members of the House of Representatives from all parts of the Union, came to see the "World's Fair," and met there thousands of earnest, enterprising men, representing every industry and every section, come together to see and be informed. Several of these meetings were of very great value, and, in the course of their discussions, elicited the rich results of advanced thought in their several specialties.

The Close of the Exposition.—The exposition closed with appropriate and impressive formalities on December 31st, in conformity with the arrangement made by the managers. The officials, with Governor Colquitt at their head, the chief officers of the State government, and a large number of distinguished guests, exhibitors, and visitors, filled the Judges' Hall at the appointed hour. After prayer by Bishop H. W. Warren, of the Methodist Episcopal Church, Mr. Kimball, Colonel William C. P. Breckin-

ridge, of Kentucky, and Governor Colquitt, delivered eloquent addresses, well worthy of the large and appreciative audience and of the occasion. The following are the closing sentences of Governor Colquitt's speech, which was loudly applauded:

Great as is the knowledge which this exposition has sent broadcast over the world of our resources and material possibilities, it is outranked by the glorious results which have been secured by three months' close and unreserved communion of hearts and minds. The sterling worth of American character has only brightened under the attrition of friendly contact.

Here let me say, in the solemnity of this parting hour, that we cherish the belief that not since the days of '76, when the pressure of mortal peril united all hearts, has fraternal sympathy so abounded, so diffused itself among our people, as at this very hour. Here we came together inspired by the purest motives and purposes. Not one oblique or unworthy influence actuated us. It was good, and good in all things that we sought, and Heaven has signally blessed our enterprise so nobly inaugurated.

Let the verdict, which tens of thousands of admiring witnesses have pronounced upon the wonderful courage and industry of the guiding spirit of this grand enterprise, and the fidelity and intelligence of his faithful co-laborers, be ratified by us in this closing hour!

Now, before I shall pronounce the word that shall still for ever the busy and ever-memorable scene that lies before our eyes, let me, in behalf of every patriot who shares with us the hope and joy of a united people, beseech each contributor to this great display will give a solemn pledge that he will be true to the kindly impulses born of this exposition, and that he will promote and defend a union of hearts of the North and the South, of the East and the West. In this covenant the officers of this exposition do most heartily unite, and may all the people say, Amen!

And now, in the joy of the triumphant conclusion of our labors—in the full hope and confidence of the grand results yet to be realized—I give the signal which announces to the world that the International Cotton Exposition is at an end.

When Governor Colquitt finished his speech, he immediately touched the electric spring under his hand, the great bell outside struck three loud strokes as the closing signal, and when the long-metre doxology had been sung by a trained chorus of a hundred voices, at 3.30 p. m., the exposition closed, after nearly three months' successful existence. When the shortness of the time between the inception and the completion of the enterprise, the total inexperience of the managers, and the many circumstances of discouragement which surrounded it are considered, an exhibition in a town of less than 50,000 inhabitants, which receives the co-operation of upward of 1,800 exhibitors, and attracts 286,895 visitors, may be justly considered a success. But it had a significance apart from and higher than that which belonged to its exhibits of agricultural machinery and products of mine, field, and forest, great as is the stimulus to improvement which these have given the entire people from the Potomac to the Rio Grande, and from the blue-grass region of Kentucky to the piney woods of the Gulf coast. It has two results of transcending importance, which in the near future will have a beneficent influence on all the States of the

Union, namely, first, it has proved to ocular demonstration the immense and varied undeveloped resources of the South; and second, by the interchange of ideas, opinions, and courtesies between intelligent and reflecting men of both sections which it afforded, the men of the North and of the South have learned to esteem each other more, to see the fallacy of the depreciative representations by unscrupulous politicians on both sides, by which they were respectively misled and estranged, and by dissipating the prejudices which made Georgia a *terra incognita* to the citizen of Massachusetts, and Maine a remote foreign country to the citizen of Georgia, to promote social and commercial intercourse between them, and finally exert a good influence in shaping the policy of the Federal Government.

The financial result of the enterprise may be stated in round numbers as follows:

Cost of buildings, etc.....	\$160,000
Running expenses.....	100,000
Total	\$260,000
Subscriptions.....	\$120,000
Entry-fees, gate-receipts, etc	135,000
Sale of buildings.....	25,000
	<hr/> 280,000
Leaving for distribution to stockholders.....	\$20,000

When all the accounts are paid, it is not improbable that this apparent surplus will be reduced to zero. As none of the stockholders expected any return when they subscribed, and as they contributed with a view only to promote the success of a "World's Fair" at the South, the number of dollars to be returned to them is not a matter of any moment.

The buildings have been purchased for \$25,000 by a stock company, who have also bought the land from the city of Atlanta for \$15,000, with a view to establish immediately a cotton-mill with not less than ten thousand spindles, with capacity of increase to twenty thousand, and with looms sufficient to weave the yarn from all the spindles employed. The name of the factory is to be the "Exposition Cotton Mills."

EYE-SIGHT, ITS DEFECTS AND TREATMENT.
In no branch of practical science has there been greater advance in recent years than in that which pertains to the structure and functions of the human eye. Perhaps the most important conclusions lately reached are those which have definitely determined the method by which the vision is adapted to near and remote objects, and have ascertained the best means of preserving this power and of rectifying its deficiencies. The similitude of the eye to the camera of the photographer is quite familiar. It is well known that the rays of light proceeding from external objects enter the eye through the cornea or projecting horny substance in front, pass through the pupil, or opening in the iris, into the dark chamber of the eyeball, and are there brought together by means of a lens so as to form an inverted picture of the object on the retina at the back of

the chamber, which retina is a screen formed by the outspread fibers of the nerve that comes in from the brain. But while there is here a distinct analogy between the eye and the *camera obscura*, there are differences which are curious and important. In the photographer's instrument the rays are brought together on a flat surface, and no combination of lenses has yet been contrived to overcome completely the disadvantage of sharply defined details in the center, shading off into indistinctness about the edges of the picture. The maximum angle subtended by the field within which a tolerably clear image can be obtained is forty-four degrees, while in the eye, owing to the concave surface on which the rays are received, a field of one hundred and sixty degrees is obtained. The vision is not sharp over all this area, owing to the constitution and distribution of the nerve-fibers of the retina. In fact, the area of clearest sight is very restricted, but the relatively large surrounding surface of inferior sensitiveness serves the purpose of giving notice of the presence of objects in a wide field of vision, and guiding the eye to a closer scrutiny of them by means of its wonderful facility of movement. The optic nerve, which enters the back of the eye from the brain and constitutes the channel of visual impressions, is a white cord nearly one sixth of an inch in diameter, and is composed of fine threads, at least 250,000 in number. These spread out to form the retina, which is rather a mosaic pavement than a true net-work. The ends of some of the threads turn back upon themselves and form relatively thick cones of nerve-matter, while others terminate abruptly in rod-like ends. These are distributed somewhat irregularly, being close-set only at one central point directly back of the pupil. This is the one spot of supreme sensibility, and, being slightly depressed, is called the *fovea centralis*, or central pit of the retina. It is constituted entirely of the cone-like terminations of the nerve-threads, relatively small in size and closely packed together, while around it is a less compact arrangement of the cone-like and rod-like terminations. Hence the visual picture is defined with consummate clearness only at this point, and presents a departure from the camera in the shape of an intensification of its chief defect, which in the eye thus becomes a part of its exquisite perfection, for the large area upon which the light falls affords a wide field of impression sufficiently sensitive to give notice of the presence of the objects which are reflected upon it, while the fine mechanism by which the eye is moved with a facility, quickness, and accuracy that are marvelous, brings the slight area of perfect vision to bear upon the particular object to be scrutinized or the different parts of that which is merely looked at. Therefore, we have practically combined perfect distinctness of the visual picture and a wide field for its reception. The camera fixes its glance upon a narrow field, and forms a picture with a clear center and

obscure or blurred outskirts. The eye sweeps its glance over a wide range, and forms clear pictures of every part of the field in such rapid succession as to receive the impression as a whole. This effect is, no doubt, promoted by the curious anomaly that, while the vibrations of light pass through a distance of 200,000 miles in a second, the nerve-influence passes from the eye to the brain at the comparatively sluggish rate of only two hundred feet in a second.

But the most important difference between the eye and the camera, and one that has only recently been fully understood, is to be found in the means employed for adjusting the instrument to the reception of light from near and remote objects. The lenses of the camera have each a constant focal length; that is, they bring parallel rays together at a certain distance from their own plane. If the rays are divergent when received, a part of the power of the lens is used up in bringing them parallel, and it must be farther from the screen, in order to concentrate the image distinctly upon it. So, if they are partly converged already, the lens must be nearer the screen. Hence, by moving the lens forward or back, the adjustment to near or distant objects is made. It was formerly supposed that the eye had some such power of elongating and compressing itself along the axis of vision, but this has been entirely disproved. Its mode of adjustment is entirely different. The eyeball is a sphere kept in shape by the fluids contained within its strong walls. These fluids serve a further purpose, not completely understood, in connection with the lens, in refracting the rays of light, but the lens alone contains the power of adjustment to distances. It is well established that there is a constant adjustment of the power of vision to the distance of objects. When the sight is fixed upon near objects, distant ones in the same direction can not be distinctly seen, and *vice versa*. Donders, the Dutch physiologist, furnishes a simple but effective illustration of this peculiarity of eye-sight. If a net is held between the eyes and a printed page, the attention may be fixed on either the net or the page, and either can be distinctly seen, but not both at once. The attention may be rapidly transferred from one to the other, and the process of adjustment will follow it. The change which takes place is wholly in the form of the crystalline lens, not in its position or the shape of the eye. This lens is suspended back of the iris and between the aqueous and vitreous humors. It is contained in a sort of sheath or shell of a slightly horny texture, which is set in a circular rim. This rim is stretched out in all directions and held firmly in place by seventy radiating elastic bands. These bands are about one fifth of an inch in length, and are attached at their extremities to the outer coat of the eye. They stretch the lens to its fullest circumference, maintaining a certain flatness which adapts it to the light from distant objects, so as to bring it to a perfect focus

on the retina. Connected with these elastic bands is a series of muscular fibers acting antagonistically to their elasticity; that is, when the muscles contract, the bands relax and allow the lens to bulge to a greater convexity, it having a natural tendency to do so when not stretched out. When the muscular fibers are brought into action so as to increase the convexity of the lens, the vision is adapted to near objects; and it is the constant play of the elastic bands and muscular fibers, together with the ready movement of the eye, that adapts the sight to objects at all ranges of distance and direction. The expansion and contraction of the iris, so as to admit more or less light at once, add effectiveness to the marvelous contrivance by which the impressions of the external world are conveyed to the brain. It is manifest that the eye must be in constant action during the hours of wakefulness, and that its delicate mechanism is subjected to a strain from which the only absolute rest is sleep or complete darkness.

These conclusions regarding the method by which the power of vision is adjusted to various distances have been thoroughly established by the investigations of Sanson, Langenbeck, Cramer, and Helmholtz, and are adopted by R. Brudenell Carter, one of the latest authorities on eye-sight. Professor Helmholtz has contrived an instrument for observing and measuring the various curvatures of the crystalline lens, which is turned to practical account in producing optical compensations for defective sight. This perfected knowledge of the structure of the eye has in fact had an important effect upon the treatment of defective vision. The crystalline lens is constructed out of a series of flattened fibers of albuminous substance, grouped in symmetrical loops around six separate axes, and connected together at their edges by interlocking teeth. The transparent mass is soft and pliable in youth, but it gradually grows denser with advancing years. This interferes with the facility with which it can be adapted to near vision, and is the cause of failing eye-sight. In early life the lens can be curved easily so as to bring objects not more than four and a half inches from the eye clearly into view, but at the age of forty it can not form a clear picture of objects nearer than nine inches. At fifty the point of nearest sight is removed to thirteen inches, at sixty to twenty-six inches, and usually at seventy all power of accommodation is practically gone. The lens retains the uniform contour adapted to distant objects, while it transmits the light with a somewhat impaired degree of perfection. The remedy for this is to supply the needed power of refraction by artificial lenses placed before the eye. By this means the power of clear vision for a certain fixed but convenient minimum of distance is completely restored. The artificial lenses should vary in convexity according to the needs of the eye. Mr. Brudenell Carter dwells with considerable

emphasis in his recent work on "Eye-sight, Good and Bad," on the inexpediency of postponing the use of artificial aids when they are needed. The failing of sight for near objects is the result of a loss of adjustability in the crystalline lens which can never be regained, and the loss will be accelerated by overstraining the eye. Spectacles should be resorted to as soon as they are needed, and should be always carefully adjusted to the actual need. Mr. Carter says: "It can not be too generally understood that spectacles, instead of being a nuisance or an incumbrance, or an evidence of bad sight, are to the far-sighted a luxury beyond description, clearing outlines which were beginning to be shadowy, brightening colors which were beginning to fade, intensifying the light reflected from objects by permitting them to be brought closer to the eyes, and instantly restoring near vision to a point from which, for ten or a dozen years previously, it had been slowly and imperceptibly, but steadily, declining. This return to juvenility of sight is one of the most agreeable experiences of middle age; and the proper principle, therefore, is to recognize loss of near sight early, and to give optical help liberally, usually commencing with lenses of $+1.25$ or $+1.50$, so as to render the muscles of accommodation not only able to perform their tasks, but able to perform them easily. When, as will happen after a while in consequence of the steady decline of accommodation, yet more power is required, the glasses may be strengthened by from half a dioptric to a dioptric at a time, and the stronger glasses should at first be taken into use by artificial light; the original pair, as long as they are found sufficient for this purpose, being still worn in the day-time." Mr. Carter and Dr. Harlan both strongly recommend, whether for the failure of near vision or for near-sightedness, the use of spectacles in preference to eyeglasses, which are less perfectly adjusted before the eyes and less steadily held in place.

Short sight is a defect of vision which arises from no natural or progressive modification of the organism of the eye, but it is often aggravated and indeed produced by the bad conditions under which the eyes are used. The organic cause of myopia is a too great depth of the eyeball, which causes the sharp image of an object to be formed in front of the retina instead of directly upon it. Eyes that are subject to this defect have a very sharp vision for objects held quite close to them, but at a little distance the outlines become blurred and the details indistinct. The remedy is spectacles with concave glasses, which should be adopted promptly when the need is discovered, because by constant straining of the eye its defect will become aggravated, even if an actually diseased condition is not induced. The organic peculiarity which is the cause of near-sightedness is often inherited, and some children are myopic at birth, but in general it is only the tendency that is congenital. This may be held in check,

or it may be accelerated, and very often near-sightedness originates in later life. It is most prevalent where civilization is farthest advanced, is more common in old than in new communities, in cities than in the country, among brain-workers and cultivated people than among laborers and the illiterate. There is a general agreement among authorities that a great development or increase of it takes place during school-life, and the result is largely due to preventable causes. "There is no longer any room for doubt," says Mr. Brudenell Carter, "that badly-lighted and badly-fitted schools form a great machinery for the development of myopia, and it is probable that this machinery, where, as in Germany, it has for a long time been in unchecked operation, may have an important influence upon the form of the eyeball, which will be inherited by large numbers of the population." Dr. Harlan declares that "it has been positively established by careful and extensive statistics that short sight is more frequently, if not almost exclusively, developed during school-life." Dr. Cohn, of Breslau, reported, as the result of an examination of 10,000 school-children, that 1,000 of them were near-sighted, and he found that the defect increased numerically as the pupil advanced through the different grades of the schools. He found 6.7 per cent of myopia in the elementary, 10.3 in the intermediate, 19.7 in the high schools, and 26.2 in the gymnasias. Similar investigations with like results have been made by Dr. Erismann, in Russia, and by Drs. Agnew, Loring, and Lundy, in the United States. Dr. Lundy, of Detroit, found an increase of near-sightedness in a twelve years' course at school from 0 at the beginning to 12 per cent in the highest grade, a progressive development of 1 per cent a year. Imperfect light, impure air, bad construction and arrangement of desks and seats, and badly-printed books, are among the causes assigned. Dr. Donders, of Utrecht, declares that "the foundation of near-sightedness is mainly laid in schools, where, by imperfect light, the pupils read bad print or write with pale ink." Another cause of injury to the eyes, as well as the general health, is the admission to schools, and too close confinement there, of children at a too early age.

There is a form of imperfect vision known as astigmatism, which is caused by a more or less irregular curvature of the front part of the eye. When it exists to any marked degree, vertical and horizontal lines can not be distinguished with equal clearness. It is in some measure corrected by the use of glasses with a cylindrical instead of a spherical curvature. A structural defect of the eye, in the treatment of which great progress has been made, is that known as cataract, in which the crystalline lens condenses and thickens until it becomes impermeable by light. It is now very effectually treated by the complete removal of the lens, the place of which is supplied by a

properly adjusted lens of glass in front of the eye. This, of course, is absolutely without the power of accommodation, and different glasses have to be used for seeing at different distances. Professor Helmholtz adopts the conclusion that the perfection of the eye depends not upon the excellence of its construction as an optical instrument, but upon the manner in which it is used. The chromatic aberration of its humors, the astigmatism of its irregular contours, the blind-gaps of its nerve-screen, the imperfect transparency of its refractive media, the interposition of blood-vessels in front of the retinal membrane, the narrow limitation of the area of sharp definition, and the prevalent blurring of the lateral parts of the field, are all conditions that must be classed as optical imperfections. Yet every one of these imperfections is so counteracted and neutralized in the use of the organ under the plan of the employment of two eyes, and under the expedient of the rapid transference of the attention to different parts of the image, that it is actually unrecognized as a defect, and undiscovered until the most refined powers of scientific investigation have been brought to bear for its detection.

There are many injuries to which the eye is subject, and many conditions having an important bearing on the preservation of good eyesight, besides those mentioned in connection with structural or induced defects of form. It is Mr. Carter's belief that a very large proportion of what is generally regarded as congenital blindness is really caused after birth by ignorant or careless treatment. He puts the proportion as high as ninety-nine cases in one hundred. The eyes of new-born infants are doubtless extremely sensitive to the effects of light and temperature, and are imperfectly shielded by nature. "From the imperfect development of the bones of the infant skull," says Mr. Carter, "the eyes are placed, so to speak, on the surface, instead of being in hollows; the eyebrows and eyelashes are short, thin, and pale; the eyelids are almost transparent, and the irides are imperfectly furnished

with opaque pigment. In the first weeks of life, moreover, infants are unable to shelter themselves from dazzling light by changing the position of the head." Protection from too strong light and from sudden or violent changes either of light or temperature, proper attention to cleanliness and ventilation, and the intelligent treatment of purulent ophthalmia when it shows itself, would in his opinion prevent a very large proportion of the cases of blindness generally believed to be congenital.

Artificial illumination is more trying to the eyes than daylight, but, when its use is necessary, the risk of injury may be reduced to a minimum. There is little choice between oil- and gas-light of a similar illuminating power. Mr. Carter remarks, "The best illumination for all purposes of close work is that of a Silber Argand burner, it matters not whether for gas or oil, placed to the left front of the worker, a little above the level of the eyes, fitted with a shade to reflect light upon the table and to intercept it above, and with the addition of an alum screen when the heat is objectionable." When several lights are used, they should be grouped together, as all cross-lights are distressing to the eye. Mr. Carter recommends that the least exacting kind of work should be done in the evening or at night; and, for literary men, reading and study by day and writing at night is the best arrangement. Reading in cars or other moving conveyances, and the close use of the eyes by dim or unsteady light, are universally condemned. Smoke is injurious to the eyes and eyelids, but, aside from its external irritating effect, Mr. Carter does not agree with some older writers in the opinion that tobacco-smoking produces any material injury to the eyes or optic nerves. According to the same authority, colored glasses should not be used except under competent surgical advice. But where protection is desired for healthy eyes from the glare of a strong light, or from reflection on snow or water, pale cobalt-blue or neutral gray is to be preferred to green or very dark glasses.

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FALKLAND ISLANDS. These islands form a group in the South Atlantic Ocean, about two hundred and fifty miles northeast of Tierra del Fuego. The number of islands is about two hundred, but only two of them are of any considerable size. Their whole superficies is reckoned at 5,000,000 acres. A few years ago penguins and sea-lions chiefly occupied their shores; but of late the English Government has encouraged emigration to them, and now numberless sheep fatten on their grass. These yield to their owners such an abundance of wool that it has become an article of exportation growing yearly in impor-

tance. No other English colony has relatively made such progress during the last ten years. The population has doubled and the production has quadrupled. According to the statements of the English colonial office, the imports, which in 1867 amounted to £20,590, had in 1878 increased to £35,040. The exports, amounting in 1867 to £15,460, had increased in 1878 to £55,470. The population in 1867 was 705, and in 1878 it had increased to 1,394. The value of the exports relatively to the number of the inhabitants is £40 to each; while in Australia it is £19 to each, and in the United States it is £4. The balance of trade in favor

of the colony is equivalent to £15 for each inhabitant.

FERTILIZERS. The system of agriculture which consists in removing crops without restoring the plant-food they take from the soil, and which Liebig aptly called *Raubbau* (robbery-culture), has already reduced the soil of our older States to the condition where it must be fertilized or abandoned; where not only the most careful tillage, and husbanding of the manurial resources of the farm, but also the importation of plant-food from outside, are requisite to the restoration of fertility. Guano, phosphates, potash salts, and the like, have become with us, as in Europe, indispensable to successful agriculture.

Every one of the Atlantic, and many of the Middle States, employ large quantities of commercial fertilizers. Their use is extending to the prairies of Indiana and Illinois; and even in Kansas experiments are being made with them on soil stated to be "worn out with long cropping." Single towns in Connecticut are said to expend \$20,000 per annum in artificial manures, and the State of Georgia imports annually some \$5,000,000 worth of plant-food, in the form of phosphates, guano, potash salts, and the like, to restore fertility to her soils.

The amounts of these materials sent out from the central markets in the spring of 1881 were so great as to make, in some places, a railroad blockade. The Commissioner of Immigration of Georgia says: "It is frequently stated that the immense increase of the cotton-crop since the war over that prior to 1860 is due to emancipation only. A most important factor in bringing this about has been the very general use of commercial fertilizers." The rapid improvement of Southern agriculture has been made practicable by various material agencies, of which this is one of the chief. Not freedom alone, but freedom and superphosphates, are giving us the "New South."

How important a factor of the agricultural progress of the country commercial fertilizers have become is illustrated by the following figures, partly official and partly general estimates, but doubtless reasonably correct:

The Commissioner of Agriculture of the State of Georgia reports that the number of tons of commercial fertilizers inspected in that State in 1881 was 152,464, from which the State received \$76,232 (a tax of fifty cents being levied upon each ton consumed in Georgia).

Dr. Dabney, Director of the Agricultural Experiment Station of North Carolina, reports, under date of December 15, 1881, that 50,000 tons were consumed in 1878, 60,000 tons in 1879, and 80,000 tons in 1880; and that "the sales this year (1881) will slightly exceed this last amount."

It is estimated that Virginia consumes over 40,000 tons; Pennsylvania, over 50,000 tons; New Jersey, over 20,000 tons; New York, over 35,000 tons; Ohio, over 15,000 tons; New England, over 50,000 tons; and the use

of fertilizers is rapidly increasing toward the Mississippi Valley, and through Michigan, Indiana, and Kentucky. The consumption in the Atlantic and Middle States is estimated at not less than 500,000 tons, or about \$20,000,000 worth. Thousands of farmers, therefore, must be using fertilizers successfully, else why this constantly increasing consumption?

The term commercial fertilizers properly applies "to those articles occurring as natural deposits, like guano and Chili saltpeter; or manipulated in some way, like dried blood and fish-scrap; or regularly manufactured, like superphosphates and potash salts, which are powerful fertilizers, are expensive in comparison with farm manure, and are regularly quoted in our market reports."

The history of the trade in commercial fertilizers dates back not more than about forty years. The value of bone, fish, and even of superphosphate of lime, however, was recognized long ago in farm practice. "The first settlers in this country learned of the aborigines on the coast that a fish, planted in each hill of maize, greatly increased the crop; bones were used as manure in England, to some extent, early in this century, and superphosphate of lime was made and applied by Sir James Murray, in England, as early as 1817."

In 1840 the first cargo of Peruvian guano was shipped to Europe. This date may be said to mark the beginning of the use of commercial fertilizers in agriculture. In the same year appeared Liebig's "Chemistry, in its Applications to Physiology and Agriculture," which book, with his other contributions to the subject, made the beginning of that movement which has created a science of agriculture, and has enabled the art of agriculture to meet the demands of modern life.

It is a not uninteresting coincidence that two movements of such moment for agriculture, artificial supply of plant-food to soils and the rational application of science to their culture, should have received their first great impetus at the same time. The ingredients to which the efficacy of the more common commercial fertilizers is mainly due are three—nitrogen, phosphoric acid, and potash. Among the more important sources of these materials in the American markets may be mentioned:

Nitrogen (ammonia).—The chief sources of nitrogen are: nitrate of soda and sulphate of ammonia, which supply nitrogen without phosphoric acid or potash; the various forms of slaughter-house refuse, dried blood, azotin, tankings, etc., which contain nitrogen with some phosphoric acid; and fish-scrap and Peruvian guano, which furnish both these ingredients in considerable quantities, the latter containing also some potash.

Phosphoric Acid.—The most important phosphatic materials are: bone-black, Canadian apatite, Navassa and South Carolina phosphates, and sundry "rock" or "washed" guanos, as Curaçoa and Orchilla, which supply

phosphoric acid with little or no nitrogen; and bone, bat-guano, and Peruvian guano, which contain considerable nitrogen with their phosphoric acid.

Potash.—The chief supply of potash in fertilizers is found in the German potash-salts, of which there are several grades, the most important being the sulphates, muriates, and kainite.

PRESENT SOURCES, CHARACTER, AND PROSPECTIVE SUPPLY OF COMMERCIAL FERTILIZERS.—A few facts concerning the mode of occurrence, character, and prospects of future supply of some of the more important commercial fertilizers may not be out of place. For a number of statements here given we are indebted to an article on "Commercial Fertilizers: Sources of Supply and History of the Trade," by Dr. E. H. Jenkins, in the Report of the Connecticut Board of Agriculture for 1881.

Nitrogenous Fertilizers: Nitrate of Soda.—In Northern Chili, formerly Southern Peru, in the province of Tarapacá, between the Andes and the ocean, is a vast arid plain of tableland, three thousand feet above sea-level, stretching north and south for eighty miles. The winds that blow steadily from the Andes make an absolutely dry climate. The soil is destitute of vegetation, and the territory is uninhabited. On this plain occur vast deposits of nitrate of soda. It lies in strata five hundred yards wide and seven or eight feet thick, and in hollows looking like dried-up lakes, whose sides are coated and bottoms covered with the nitrate underlying common salt. The origin of the deposits is undetermined. It is conjectured that the nitrogen first came from guano deposits on the shores of an inland salt lake or sea, that through atmospheric agency it was oxidized to nitric acid and then replaced chlorine in the salt of the lake, and on evaporation was left in its present shape. The crude nitrate of soda is purified at the coast by solution, separation from sand, and recrystallization, and shipped to Europe and the United States. "In 1820 the first cargo was sent to England, but was thrown overboard in harbor because the duty was so high that it would not pay to pass it through the custom-house. In 1830 a cargo came to the United States, but found no sale. In that year 18,700 tons were exported from Iquique; in 1840, 227,300 tons; in 1850, 511,800 tons; in 1860, 1,370,200 tons; in 1870, 2,743,400 tons. In 1872 the amount had risen to 4,000,000 tons, and in the following year the Peruvian Government took the matter into its own hands and decided to export only 4,500,000 tons annually, so as to keep the price constant. At present the region is in the hands of the Chilean Government, and is likely to remain there.

"Till now only one grade of nitrate of soda has appeared in our market, and that has never shown any fluctuation in composition, running from 94 to 96 per cent of pure nitrate of soda, with from 1 to $1\frac{1}{2}$ per cent of salt, $2\frac{1}{2}$ per cent of water, and a very little insoluble matter."

Sulphate of Ammonia.—Another source of nitrogen is found in ammonia salts, particularly the sulphate of ammonia, which is now chiefly obtained as a by-product in the gas-manufacture. When of fair quality it should contain from 16.5 to 20 per cent of nitrogen, or from 77.7 to 94 per cent of the pure salt. Formerly our supply came mostly from England, but of late it is being manufactured largely in this country. It is stated that low-grade sulphate of ammonia, with only $7\frac{1}{2}$ to $8\frac{1}{2}$ per cent of nitrogen, is being imported here. Such ammonia salts are apt to contain sulphocyanide of ammonia, a substance rich in nitrogen but poisonous to plants.

Animal Refuse: Dried Blood, Meat-Scrap, etc.—Another very important source of nitrogen for fertilizers is the offal of slaughter-houses, which comes into the market under a variety of forms and names: as, dried blood, meat-scrap, azotin, ammonite, tankage, etc. In the smaller slaughter-houses, the old way of letting the offal run to waste still prevails, but in the large establishments of both the East and West, scarcely a pound of the solid matter of the animals is left unutilized.

The blood is drawn into tanks, the albumen is coagulated and separated, the remaining solid residue is dried by various methods, and sold as dried blood, with from 9 to 12 per cent of nitrogen. It is a cheap, efficient, and valuable source of this costly element. Tankage and meat-scrap are names applied to the refuse flesh and viscera, with often more or less bone, prepared by processes similar to those used for dried blood. They are rich in nitrogen, and contain considerable phosphoric acid also. Ammonite or azotin is prepared from beef and pork "cracklings," the refuse from tallow and lard melting, by extracting them with benzine.

Fish-Scrap—Fish-Guano.—One of the most important sources of nitrogen for fertilizers in this country is the refuse left after the extraction of oil from fish, especially the menhaden. The early settlers of Massachusetts and Virginia learned from the Indians to manure their corn with fish, and it has long been the practice of farmers on the Atlantic coast to spread menhaden on their land for a fertilizer. Since the menhaden began to be utilized for the extraction of oil, a cognate industry has been developed in the manufacture of a concentrated fertilizer from the residual "pomace" or "scrap." The first successful attempt to manufacture a fertilizer from fish-scrap is credited to a Mr. Lewis, of New Haven, Connecticut, in 1849. The fish were steamed or boiled until disintegrated, pressed to remove the oil, and the press-cake dried and ground. This is essentially the process now employed, though more or less successful modifications have been devised, especially to secure more complete extraction of oil, which is a valuable commodity when separated, but detrimental in the fertilizer. The crude material is known as fish-scrap. When dried and pulverized it is called fish-guano.

The present extent of this industry and the use made of fish-manures may be gathered from the fact that, in 1875, the nitrogen derived from fish-manures was equal to that contained in 30,000 tons of Peruvian guano. In 1880 there were 79 fish-factories on the Atlantic coast, employing 448 vessels and 3,200 men; 2,035,000 gallons of fish-oil were produced, and 45,000 tons of scrap. The various kinds of animal refuse, dried blood, tankings, fish-scrap, etc., are used chiefly for "ammoniating" superphosphates.

Peruvian Guano.—This wonderful material, whose use by millions of tons has done so much to restore fertility to the depleted soils of Europe and America, has been in the past the most important of the various commercial fertilizing materials. Peruvian guano, as is well known, consists mainly of the excrement of birds, which has been accumulating for centuries on the almost rainless coasts and adjacent islands of Peru and Chili. What makes the excrement of birds particularly valuable as a fertilizer is that the excretion of both kidney and intestines is mixed in the cloaca, and voided in a comparatively solid condition. What makes guano so far superior to any fresh manure of the kind is that the sole diet of these birds was fish, which are rich in phosphoric acid and nitrogen, and also that all the moisture was speedily taken out of the mass by the dry, hot winds continually passing over it. It is interesting to note that our lands are continually suffering a loss in nitrogen and other elements of plant-food which, through various channels, finds its way continually to the ocean and passes out of our reach; and that through the agency of these birds many million tons of these same elements have been recovered from the ocean, and stored up where of all places they would keep best for our use, long before we felt the loss and desired its replacement. The use of guano as a fertilizer dates back at least to the time of the Incas in the twelfth century. The old Peruvians had a proverb to this effect:

"Guano can work miracles,
Though it is not numbered with the saints."

Humboldt brought samples to Europe, the analyses of which were published in 1806. A more complete investigation was made by Liebig and Wöhler in 1837. In 1840 a ship-load was brought to England, and since then many million tons have been taken to Europe and to this country. Of late the supplies of Peruvian guano have been curtailed and unreliable, partly because of the exhaustion of some of the deposits, and partly because of the misgovernment and war in Peru. The future of the Peruvian guano supply it is impossible to forecast. The supply for the coming year is said to be assured, and it is the opinion of those in position to judge, that, with a stable and enlightened government, Peru may supply Europe and America with guano for years to come.

Phosphatic Guanos and Rock Phosphates.—Peruvian guano being little exposed to rain, has retained a large portion of its soluble constituents. Many of the bird deposits, however, are subject to more or less frequent rains, which either wash back into the ocean the freely soluble materials, or bring them into reaction with the coral limestone by which they are in part retained. As a rule, the nitrogen and potash are lost, while the phosphates are retained and become a valuable source of phosphoric acid, forming what are called the phosphatic guanos. In former years we received a great deal of this material from some small Pacific islands of coral formation under the name of American guano. In 1856 the United States assumed the protection of all the guano islands in the Pacific which lay within 10° of the equator north and south, and between longitude 150° and 180°. The islands chiefly worked were Baker's, Howland's, and Jarvis's. The guano was brown, pulverulent, and coarse-grained, and could be shoveled without picks. It contained from thirty to forty per cent of phosphoric acid, and by treatment with sulphuric acid made excellent superphosphates. For some time past, however, the whole product has been carried to Europe. Our main supply of this material comes now from the West Indies. Just at the mouth of the Gulf of Venezuela, in the Caribbean Sea, lie Great Curaçoa and Little Curaçoa Islands. For some years they have furnished large quantities of guano to Germany and the United States. The Little Curaçoa guano from which most of our supply comes is poorer in phosphoric acid than the other, averaging from twenty-five to twenty-eight per cent. Its mechanical condition, however, is better. Great Curaçoa guano goes largely to Germany. It is hard and rocky, but has from thirty-eight to forty-two per cent of phosphoric acid. Another phosphatic guano, which has been used to considerable extent in this country, is the Orchilla, which has a somewhat similar composition, though it is of rather inferior value and importance. Another rock phosphate from the West Indies, the Navassa, is now extensively used in this country as material for the superphosphate manufacture. The phosphatic deposits of Navassa Island were formed under water and thrown up by volcanic action. The phosphate is inferior to the phosphatic guano mentioned, especially because of a large content of iron and alumina, which causes superphosphates made from it to "revert" badly.

South Carolina Phosphates.—Dr. Jenkins, in the article already referred to, speaks of this as follows: "The South Carolina phosphate beds I believe are, and for some time will be, the chief source of raw material for our domestic superphosphate manufacture.

"For most of the facts given in this connection I am indebted to an interesting printed report by Professor C. U. Shepard, Jr., of

Charleston, who has had a more extensive experience in the matter than any one else, and to verbal information received from him. As to the real extent of the deposits which can be worked to advantage, we at present are not fully informed, for the industry is still in its infancy. The existence of vast beds of phosphorite was known before the war, but they were not worked till after its close. This material is found in many places on and near the sea-coast, but the larger part hitherto marketed has come from the region lying to the north and northwest of Charleston between the Cooper and Stono Rivers, and from the region at the head of St. Helena Sound on the Bull and Coosaw Rivers northeast of Beaufort.

"It is essentially a phosphate of lime soft enough to be got out with shovel and pick. The land deposits occur in a stratum from six to fifteen inches thick, though averaging not more than eight inches, and where worked do not lie more than six feet below the surface.

"There are also submarine deposits consisting both of loose material brought down by the current, and of fine regular strata. This is known in the market as 'river rock.'

"The rock is always washed, drained, and dried somewhat before shipment, and some firms dry their material thoroughly by piling it up under cover around tubes which are supplied with hot air. Hot-air dried cargoes at present make up more than half the total amount shipped.

"The extent of the industry is indicated by the following figures:

"There were shipped from Beaufort and Charleston the following amounts of crude phosphate: In 1875, 122,790 pounds; 1876, 132,626; 1877, 163,220; 1878, 210,323; 1879, 199,365; 1880, 190,763; 1881, 266,734."

Apatite.—Very large deposits of the mineral apatite have been opened in Canada, and are being utilized for the manufacture of superphosphate. It is said, however, that the bulk goes to England, the market rates being at present such as to make other materials, as South Carolina phosphates, cheaper for our home use. The apatite, however, makes an excellent fertilizer, and the supplies are, fortunately, very extensive.

Bone-Manures.—Of these, the most important are bone, raw, boiled, and steamed, bone-black, and bone-ash. Bone is offered to the farmer almost everywhere and in a great variety of forms, and is, perhaps, more widely used than any other concentrated manure. Raw bones contain from $3\frac{1}{2}$ to 4 per cent of nitrogen, and from 20 to 25 per cent of phosphoric acid. Steamed bone is generally a little poorer in nitrogen and richer in phosphoric acid, while bone which has passed through the glue-factories contains often but a small fraction of one per cent of nitrogen, and may run as high as 30 per cent of phosphoric acid. Bone-manures vary in mechanical condition as well as in composition. Very fine-ground bone

acts quickly, but coarsely ground bone, especially if greasy, is one of the slowest of fertilizers to decompose in the soil and furnish its material to the plant. Adulterations of bone with intent to defraud are not frequent. A great quantity of very coarse bone is used, but boiling and steaming, which remove the fat and make the bone friable and easily ground, is becoming very general, and the result is a great improvement in the quality of bone-manures. The spent bone-black from sugar-refineries furnishes a small but constant supply of material, not suited for direct application to land, but much prized as a basis for superphosphate because of its fineness and convenience for treatment with sulphuric acid. Even when genuine bone-black is out of the market, manufacturers bent on satisfying their customers continue to turn out this popular superphosphate by a judicious mixing of mineral superphosphates and lamp-black. Bone-ash from South America is occasionally found in the markets.

Potash and the German Potash Salts.—The question whence the potash for the depleted soils of the world was to come, was for years a serious one with chemists and agriculturists. Wood-ashes were a very limited and withal costly source, and did not supply enough for use in manufactures and other than agricultural arts. The extraction of potash from orthoclase feldspar and from sea-water, though feasible, was too costly. The solution of the difficulty was found a few years ago in the discovery of the potash deposits in the region of Stassfurt, in Germany. This accumulation of salts has come from the evaporation of sea-water in past geologic time. The process of evaporation, whose cost, when carried on by artificial means, would be so great, has been provided for by nature on an enormous scale, and we have the products in the deposits referred to. Commencing near there but a few years ago, the use of potash salts as fertilizers has already become almost universal in Germany, has extended largely into other parts of Europe, has reached to the impoverished fields of our own country, and even to the coffee-plantations of Brazil and Ceylon. The amount used has increased from a few hundred to many thousand tons per year. The Stassfurt fertilizers have excited an interest and reached an importance comparable with that to which Peruvian guano attained years ago. The results of a great deal of experimenting and experience indicate that the usefulness of these salts as fertilizers depends not only upon the character of the salts themselves, of which there are various grades, but also on the kind of soil, the mode of application, and the kind of crop. Properly used on soils deficient in potash, they are extremely beneficial and profitable. A singular fact in connection with the Stassfurt mines is that the potash compounds were at first thrown away. The mines had been opened for the sake of the salt, of which they supply immense quantities. On the layer

of salt there rested enormous beds of saline compounds known to contain a great deal of magnesia and some potash. To get at the salt below, these magnesia and potash salts had to be dug out and dumped on waste land at the mouth of the mine. In 1860 the chemist Rose called attention to the waste, and the government encouraged fertilizing experiments with a view of utilizing this material, and also offered premiums to manufacturers who should devise methods of producing high-grade potash salts from them. In both directions there was complete success. The extent to which the industry has grown may be illustrated by a few figures. The amount of high-grade salts produced has been, according to the best data at hand, in 1862 about 3,000 tons; in 1863, 9,000 tons; 1864, 21,500; 1865, 14,700; 1866, 26,782; 1867, 25,991, while from this time the production increased until in 1877 it

reached 106,809 tons. Besides these high-grade materials, very large quantities of inferior grades are sold. The bulk of the potash salts in our markets belong to three classes—Sulphates, Muriates, and Kainite. The sulphates are difficult of preparation, costly, and sometimes contain less sulphate of potash than represented. The muriates are rarely below grade, and are for general uses the cheapest and most desirable. The kainite is a low-grade salt containing a small percentage of potash, and a large amount of common salt and magnesium compounds.

A most useful and satisfactory exhibit of the composition of the commercial fertilizers in our markets is given in a tabular statement, compiled from the most reliable analyses, by Dr. Jenkins, in "The Farmer's Annual Hand-Book for 1882,"* from which we condense the following:

The Composition of Various Sorts of Commercial Fertilizers, Farm Manures, and other Fertilizing Materials.

COMMERCIAL FERTILIZERS.	Number of analyses.	Water.	Organic matter.	Ash.	Nitrogen.	Silica and insoluble.	Alumina and oxide of iron.	Lime.	Magnesia.	Potash.	Soda.	Sulphuric acid.	Phosphoric acid.	Chlorine.	Carbonic acid.
FARM MANURE AND FACTORY REFUSE.															
Stable-manure.....	4	71.8	15.6	13.1	0.5	10.5	0.7	0.5	0.3	0.4	0.1	0.1	0.5	0.1	0.2
Hen-manure.....	3	53.0	16.3	25.7	0.8	20.7	.....	.....	.....	0.4	.....	.....	0.5	.....	.....
Night-soil—poudrette.....	6	32.2	26.1	41.7	1.4	14.9	2.2	3.5	0.6	0.3	0.3	6.7	2.2	0.1	.....
Swamp-muck, fresh.....	17	76.2	15.8	8.0	0.3	6.8	1.4	0.4	.....	.....	.....	.....	.....	.....	.....
Swamp-muck, air-dry.....	38	21.4	53.3	25.3	1.3	13.5	1.4	0.9	.....	.....	.....	.....	.....	.....	.....
Oyster-shell lime.....	3	19.5	.....	.....	.....	7.6	1.4	57.3	0.3	0.04	0.2	0.5	0.2	0.02	13.0
Gas-lime.....	7	4.4	10.5	85.1	0.3	5.1	3.4	40.9	11.0	0.6	.....	4.1	.....	.....	25.0
Rock-weed, fresh.....	3	82.6	12.7	4.7	0.4	.....	0.02	0.2	0.2	0.4	0.8	0.7	0.2	.....	0.8
Rock-weed, cured.....	1	22.4	57.9	19.7	1.0	.....	.....	.....	.....	2.7	3.6	.....	0.3	.....	.....
Tobacco-stems.....	1	32.7	54.8	12.5	1.8	1.2	0.1	3.6	0.1	5.2	0.2	0.6	0.5	1.1	.....
ASHES AND LIME MANURES.															
Wood-ashes.....	18	7.8	.....	.....	.....	12.4	2.8	32.4	4.9	7.7	1.0	1.4	2.1	0.6	23.3
Leached wood-ashes.....	12	31.5	.....	.....	.....	11.8	2.1	29.3	8.0	1.1	0.4	0.1	1.5	0.1	20.9
Ashes of cotton-seed hulls.....	4	18.0	.....	.....	.....	14.3	1.5	8.1	4.2	19.7	7.8	.....	9.2	.....	.....
“ of corn-cobs.....	1	.....	.....	.....	.....	27.8	7.5	.....	.....	23.2	.....	.....	.....	.....	.....
Lime-kills ashes.....	6	2.7	.....	.....	.....	17.6	1.3	45.8	2.9	0.9	0.6	.....	1.7	.....	24.0
New Jersey green marl, average.....	73	8.2	.....	.....	.....	52.8	25.5	2.9	2.2	4.7	0.6	0.7	2.2	.....	0.9
Land-plaster (gypsum).....	17	.....	.....	.....	.....	3.4	.....	54.7	.....	.....	41.9	.....	.....	.....	.....
FERTILIZERS CHIEFLY VALUABLE FOR THEIR NITROGEN.															
Nitrate of soda.....	14	1.8	.....	.....	15.8	.....	.....	.....	.....	.....	.....	.....	.....	1.4	.....
Sulphate of ammonia.....	13	.....	.....	.....	19.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dried blood.....	47	16.0	.....	.....	9.4	3.0	.....	.....	.....	.....	.....	.....	5.0	.....	.....
“Azotin”.....	9	10.1	.....	.....	10.7	.....	.....	.....	.....	.....	.....	.....	6.9	.....	.....
Dry fish-guano.....	83	15.7	.....	.....	7.8	.....	.....	7.0	0.7	3.0	1.0	.....	6.9	.....	.....
Half-dry fish.....	7	46.0	.....	.....	4.7	.....	.....	.....	.....	0.3	.....	.....	5.5	.....	.....
Castor-ponace.....	15	9.7	.....	.....	4.8	.....	.....	.....	.....	1.0	.....	.....	1.8	.....	.....
Cotton-seed meal.....	7	6.8	.....	.....	6.5	.....	.....	.....	.....	2.0	.....	.....	2.9	.....	.....
Tankings and slaughter-house refuse.....	13	20.2	.....	.....	5.9	.....	.....	.....	.....	.....	.....	.....	8.4	.....	.....
Malt-sprouts.....	2	7.4	55.7	6.9	4.4	1.5	0.2	0.2	0.2	2.2	0.2	0.6	1.7	.....	.....
Hoof and horn shavings.....	9	14.2	.....	.....	13.5	.....	.....	.....	.....	.....	.....	.....	0.5	.....	.....
Hair-manures.....	7	32.0	.....	.....	7.2	.....	.....	.....	.....	.....	.....	.....	1.9	.....	.....
Wool-waste.....	2	10.1	.....	.....	5.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
POTASH SALTS.															
Muriate of potash.....	20	.....	.....	.....	.....	.....	.....	.....	.....	52.3	6.7	.....	.....	49.4	.....
Sulphate of potash—high grade.....	10	.....	.....	.....	.....	.....	.....	.....	.....	40.5	.....	46.5	.....	1.6	.....
“ —low grade.....	7	.....	.....	.....	.....	.....	.....	.....	.....	30.5	.....	11.7	.....	34.7	.....
Kainite.....	13	.....	.....	.....	.....	.....	.....	4.2	8.8	13.1	17.2	15.9	.....	26.3	.....
PHOSPHATIC MATERIALS.															
Bone-mannres.....	110	9.6	.....	.....	3.3	.....	.....	.....	.....	.....	.....	.....	21.7	.....	.....
Bone-black.....	4	9.9	8.1	82.0	.....	1.6	.....	.....	.....	.....	.....	.....	33.1	.....	.....
Bone-ash.....	2	5.0	.....	.....	.....	4.5	.....	44.9	.....	.....	.....	.....	35.3	.....	.....
Canadian apatite.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	34.6	.....	.....
Navassa phosphate.....	2	5.5	.....	.....	.....	3.2	13.0	37.7	.....	.....	.....	.....	27.3	.....	.....
South Carolina phosphate.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	26.0	.....	.....
Curacao guano.....	2	11.6	.....	.....	.....	0.7	.....	42.9	1.9	.....	.....	1.4	27.4	.....	10.3
Orchilla “.....	5	7.4	.....	.....	.....	.....	.....	40.8	2.6	.....	.....	2.2	23.8	.....	.....
Bat “.....	5	19.9	63.1	17.0	8.7	6.2	.....	.....	.....	trace	.....	.....	4.8	.....	.....

* New York, D. Appleton & Co.

PERUVIAN GUANO AND SUPERPHOSPHATES.	Number of analyses.	Water.	Nitrogen.	Soluble phosphoric acid.	Reverted phosphoric acid.	Insoluble phosphoric acid.	Potash.
Peruvian guano, No. 1, standard.....	27	....	8.0	4.8	5.1	5.1	3.1
Peruvian guano, guaranteed	5	....	6.2	5.0	7.1	5.1	3.5
Peruvian guano, Lobos	4	11.8	5.0	5.0	5.0	6.6	3.4
Peruvian guano, No. 2.....	2	12.7	3.0	4.0	7.8	2.1	2.0
Peruvian guano, rectified.....	7	12.3	8.6	11.2	1.4	0.9	2.4
English and American high-grade superphosphates.....	6	....	...	13.2	1.5	0.8	...
Superphosphate from South Carolina rock.....	4	....	...	7.4	2.8	7.0	...

“The average trade-values, or cost in the markets, per pound, of nitrogen, phosphoric acid, and potash,” for 1881, are given by the Connecticut Agricultural-Experiment Station as follows. The figures are based upon prices in Connecticut and New York, but do not differ materially from those in other large markets:

TRADE-VALUES FOR 1881.		Cents per pound.
Nitrogen in nitrates.....		26
“ in ammonia salts.....		22½
“ in Peruvian guano, fine steamed bone, dried and fine ground blood, meat, and fish, superphosphates, and special manures.....		20
“ in coarse or moist blood, meat, or tankage, in cotton-seed, linseed, and castor pomace.....		16
“ in fine ground bone, horn, and wool-dust		15
“ in fine medium bone.....		14
“ in medium bone.....		13
“ in coarse medium bone.....		12
“ in coarse bone, horn-shavings, hair, and fish-scrap.....		11
Phosphoric acid, soluble in water.....		12½
“ “ “reverted” and in Peruvian guano.....		9
“ “ “insoluble, in fine bone and fish guano.....		6
“ “ “ in fine medium bone.....		5½
“ “ “ in medium bone.....		5
“ “ “ in coarse medium bone.....		4½
“ “ “ in coarse bone, bone-ash, and bone-black.....		4
“ “ “ in fine ground rock phosphate.....		3½
Potash, in high-grade sulphate.....		7
“ in low-grade sulphate and kainite.....		5½
“ in muriate or potassium chloride.....		3½

EXPERIMENTS WITH FERTILIZERS.

Perhaps the most interesting phase of the late history of commercial fertilizers is the experimental study of their action upon the soil and influence upon the growth of plants. A large number of agricultural colleges, experiment stations, bureaus, societies, and private individuals have been lately engaged in this work, and results of great value are being attained.

Experiments in Georgia: Composts.—The Department of Agriculture of Georgia, under direction of J. T. Henderson, commissioner, has continued, during the season of 1881, the soil-tests of commercial fertilizers, which it has been conducting for some years past. In these experiments various brands of superphosphates, guanos, etc., alone and composted with cotton-seed or stable-manure, have been applied by planters throughout the State to parallel strips of land, on which various crops, especially cotton, were grown. The results are, on the whole, very encouraging for the use of high-grade fertilizers, though failures are not infrequent, even with favorable weather.

The very rational plan of composting concentrated fertilizers, such as acid phosphates with cotton seed and farm manures, has brought most gratifying results. Thus one of the experimenters, Professor W. M. Browne,

of the State University at Athens, says: “My experience and observation, during the past five seasons, convince me that we can not afford to raise crops on upland without the aid of commercial fertilizers of established reputation, and of composts carefully made.” Another experimenter, Mr. E. S. Wellons, of Perry, Houston County, says: “My experience, particularly on my own farm this season, more clearly than ever demonstrates the wisdom of composting acid phosphate with cotton-seed and stable-manure.”

Experiments in Alabama: Fertilizers for Cotton.—Professor W. O. Stubbs, of the Agricultural and Mechanical College of Alabama, who has been conducting extensive series of experiments with fertilizers for cotton, arrives at a number of very interesting conclusions, of which several may be briefly stated, as follows:

1. The soils upon which the experiments were made, and which result from the decomposition of metamorphic rocks, principally hornblende and feldspathic, appear to need no potash, little nitrogen, and a great deal of soluble phosphoric acid. Indeed, one great want which seems to prevail throughout the older cotton States (except, perhaps, in individual regions, such as the black cretaceous prairie cotton-belt of Alabama, which has not been tested) is soluble phosphoric acid. On worn-out soils a small quantity of nitrogen is also required—three parts of nitrogen to ten of phosphoric acid being a good mixture, as shown by experiments.

2. Phosphoric acid hastens, and nitrogen retards, the maturing of the plant.

3. Cotton-seed or cotton-seed meal is as efficacious as, and a far more economical source of nitrogen than, the much costlier guano, animal refuse, nitrate of soda, and other commercial materials. These conclusions are borne out by carefully conducted experiments as well as by large experience.

The doctrine that the Southern States will do better to utilize nitrogen in a home product than import it at an expense of millions of dollars every year is certainly an important one. Fortunately, it is getting to be understood and followed.

During the past five years several hundred field experiments with fertilizers have been conducted in concert in all the States east, and some west, of the Mississippi, and the provinces of Canada, by farmers, schools, and experiment stations. The results of a large num-

ber tabulated by Professor W. O. Atwater, by whom, as Director of the Connecticut Agricultural Experiment Station, the experiments were suggested, are of no inconsiderable interest.

Experiments for testing the Needs of Soils.—Of these experiments the larger number were performed by farmers as a means of learning what ingredients of plant-food were most needed by their soils and crops. The principle upon which they are based is briefly this: The chief office of fertilizers is to supply the plant-food that our crops need and soils fail to furnish. It is not good economy to pay high prices for materials which the soil may be made to yield in abundance or which may be supplied by the carefully husbanded manures of the farm, but it is good economy to supply the lacking ones in the cheapest way. The most important ingredients of our common commercial fertilizers are phosphoric acid, nitrogen, and potash, because of both their scarcity in the soil and their high cost. It is in furnishing these that guano, phosphates, bone-manures, potash salts, fertilizers for special crops, etc., are chiefly useful. The experiments provided the three ingredients named, each by itself, two by two, and all three together. Nitrogen was supplied in nitrate of soda, phosphoric acid in dissolved bone-black, and potash in the German muriate. Muriate of potash, at the rate of 150 pounds per acre, increased the yield of corn in some cases from scarcely enough to be worth husking to over sixty bushels of shelled corn with a rich growth of stalks, while in other places it was without marked effect, and alone it was not usually profitable. With superphosphate numerous experimenters compute their gain at \$20 to \$40 per acre, while others find large loss. With each of the other materials and mixtures the same is true to a greater or less degree. On the average the complete chemical fertilizer has brought larger, better, and surer crops than farm manures. The experiments show conclusively that:

1. Soils vary widely in their capacities for supplying crops with food, and consequently in their demand for fertilizers.

2. The right materials, in proper forms and in combinations suited to soil, crop, and surroundings, bring large profits.

3. The way, and the only way, to find what a soil wants is to study it by careful observation and experiments.

An outcome of these experiments has been the developing of a series of more complicated "special experiments," whose object is the study of certain important problems of fertilization and plant-growth.

The Feeding Capacities of Plants: the Nitrogen Supply.—A vast deal of experience in the laboratory and in the field bears concurrent testimony to the fact (though we are still deplorably in the dark as to how or why it is so) that different kinds of plants have different

capacities for making use of the stores of food that soil and air contain. Of the ingredients of plant-food commonly lacking in our soils, the most important, because the most rare and costly, is nitrogen. Leguminous crops, like clover, do somehow or other gather a good supply of nitrogen where cereals, such as wheat, barley, etc., would half starve for lack of it, and this in the face of the fact that leguminous plants contain a great deal of nitrogen and cereals relatively little. Hence a heavy nitrogenous manuring may be profitable for wheat and be in large part lost on clover. To get some more definite information as to the relation of our more common cultivated plants to the nitrogen supply, a "special nitrogen experiment" was devised, in which were compared the effects of mineral fertilizers (superphosphate and potash salt) alone and the same with nitrogen in different amounts and forms. The nitrogen was supplied as nitric acid in nitrate of soda, as ammonia in sulphate of ammonia, as organic nitrogen in dried blood, and the three forms combined.

Experiments with Corn.—The relation of corn to the nitrogen supply has been widely discussed. The main question is whether it is, like wheat, an "exhausting," or like clover, a renovating, crop. Botanically it is closely allied to wheat, and the most eminent authorities have attributed to it a similar relation as regards its demand for nitrogenous manures. Indeed, "corn manures" with large and very costly quantities of nitrogen have been widely recommended and largely used. So eminent an authority as Dr. Lawes, the famous English experimenter, recommends as "the best possible manure for cereals," including maize, "a mixture of nitrate of soda and superphosphate, while Professors Ville, of France, and Stockbridge, of the Massachusetts Agricultural College, whose formulas are widely known and used, have advised the following formulas for corn:

VILLE FORMULA FOR ONE ACRE.

MATERIALS.	Ingredients.	Cost in formula.	In cheapest form.
Nitrate of potash, 180 lbs.....	Nitrogen, 24 lbs. Phos. acid, 81 lbs. Potash, 79 lbs....	\$9 20	\$4 80
Acid phosphate of lime, 84 lbs.....		9 45	9 45
Sulphate of lime, 360 lbs.....		7 00	8 56
		1 44	1 44
Total.....		\$27 09	\$19 25

STOCKBRIDGE FORMULA FOR ONE ACRE.

MATERIALS.	Ingredients.	Cost in formula.	In cheapest form.
Sulphate of ammonia, 820 lbs.....	Nitrogen, 64 lbs.. Phos. acid, 81 lbs.. Potash, 77 lbs....	\$15 20	\$12 80
Superphosphate, 248 lbs.....		4 34	4 34
Muriate of potash, 154 lbs.....		3 46	3 46
Total.....		\$23 00	\$20 60

Fortunately, we have a considerable number of experiments bearing upon this point. The results of the trials of 1881 have not yet been published in detail; the general outcome, however, is similar to that of those of previous years, which are summarized by Professor Atwater as follows. The "general" experiments are those of the former class (soil-tests), and the "special" of the latter class named above:

"Estimating a bushel of corn, with its cobs and stalks, to contain 1½ pound of nitrogen, and to be worth 80 cents, the effects of the nitrogenous fertilizers in the special and in the general experiments may be summarized as follows, remembering that the superphosphate and potash salt, "mixed minerals," supplied the amounts of phosphoric acid and potash in a crop of not far from 55 or 60 bushels, which would also contain about the 72 pounds of nitrogen:

BUSHELS OF CORN AND POUNDS OF NITROGEN IN CROP, PER ACRE.

FERTILIZING MATERIALS.	Corn, bushels.	Nitrogen, pounds.
ELEVEN SPECIAL EXPERIMENTS.		
"Mixed minerals" alone.....	45.2	60.4
Same + 24 lbs. nitrogen.....	54.5	72.7
Same + 43 lbs. nitrogen.....	55.4	73.8
Same + 72 lbs. nitrogen.....	56.7	75.6
SEVENTY-FIVE GENERAL EXPERIMENTS.		
"Mixed minerals" alone.....	43.4	57.8
Same + 24 lbs. nitrogen.....	47.8	63.7

"In the general experiments the mixture of 300 pounds superphosphate and 200 pounds muriate of potash brought, on the average of fifty-three experiments, about 43½ bushels of shelled corn per acre. The special experiments, however, seem to me a fairer test of what the fertilizers may do, because, while made in all sorts of weather and on worn-out soils, they were nearly all on soils and in latitudes fit for corn, as many of the general experiments were not. In these the mixture of 300 pounds superphosphate and 150 pounds of potash salt, which can be bought for \$8.25, brought on the average 45 bushels of shelled corn per acre.

"The experiments of these seasons bear unanimous testimony to two things: The corn was helped but little by nitrogen in the fertilizers; and it gathered a good deal from natural sources. The increase of crop and of nitrogen in the crop will appear more clearly if we look at it another way."

In number of trials.	WITH NITROGEN.		The average increase of corn was—	The increase of nitrogen in the crop was—
	Amount per acre.	Contained in crop of—		
75	24 lbs.	18 bushels.	4.1 bushels.	5.5 lbs.
53	43 "	36 "	6.2 "	7.9 "
22	72 "	54 "	8.0 "	10.6 "

Or, estimating the result in dollars and cents—

In trials, total number.	With nitrogen amounts.	Costing.	The nitrogen paid for itself in trials—	The nitrogen failed to pay for itself in trials—	The average loss in the several trials was—
75	24 lbs.	\$5 62½	17	53	\$1 48
53	43 "	11 00	11	42	6 66
22	72 "	16 50	2	20	11 62

"The experiments are numerous and decisive enough to warrant the inference that, as corn is commonly grown, nitrogenous fertilizers in any considerable quantity would be rarely profitable. They imply that corn has somehow or other the power to gather a great deal of nitrogen from soil or air, or both; they imply that in this respect it comes closer to the legumes than the cereals—that, in short, corn may be classed with the renovating crops."

Practical Applications.—Among the general conclusions derived from these experiments are the following:

1. The "Complete Chemical Fertilizer," the mixture of 300 pounds superphosphate, 150 to 200 pounds potash salt, and 150 pounds nitrate of soda, costing \$15.38 per acre (including \$5 per acre for freight), brought the largest crops, excelling even the farm manures with all the crops on which the number of experiments is large enough for a fair comparison, and bringing surer returns even in cold, wet, and drought. Doubtless a mixture with less potash and more phosphoric acid would have proved still more efficient.

2. The mixture of 300 pounds of superphosphate and 150 pounds of salt, costing \$8.25 per acre, brought a trifle less corn and decidedly more potatoes than farm manures.

3. The mixture of nitrate of soda and superphosphate, which corresponds closest of all to the ordinary ammoniated superphosphates, fish-manures, and guano, though costing more than the mixture of superphosphate and potash salt, brought less increase of corn, potatoes, turnips, sweet-potatoes, and indeed of every crop but oats. The number of experiments with oats, however, is too small for any general conclusions. It is very probable that oats and the cereals generally would be more helped by nitrogen, and less by potash, than the other crops. But it is a question whether manufacturers of ammoniated phosphates would not do better to substitute potash salts for the nitrogenous materials in compounding their fertilizers, at least for some crops.

4. The mixture of nitrate of soda and potash salt was the least useful in all the cases where it was tried.

5. As to the efficiency of the materials separately, the nitrate of soda was rarely profitable, the sulphate of lime frequently, the muriate of potash very often, and the superphosphate generally so. Doubtless, considerable of the effect of the superphosphate was due, in many cases, to the sulphuric acid and lime.

6. As to the effect of ashes, the results are variable, though generally they were efficacious.

7. Not only did the "Complete Chemical Fertilizer" bring a larger average increase than farm manures as actually used, and the mixture of superphosphate and potash salt nearly as large average increase, but the quality of the crop was generally better with the chemicals than with the farm manures. Potatoes, especially, were finer in quality and less disposed to rot with the artificial fertilizers than with the farm manures.

8. The most profitable material in a given case is that which is best fitted to its needs. The chief factors of the problem are: 1. Soil; 2. Season; 3. Feeding-capacity of the crop, its power to gather its food from soil and air; 4. Form of combination of the ingredients of the fertilizers; 5. The indirect action of the fertilizer.

Soils vary in respect to the plant-food they supply

in available forms. Phosphoric acid is most often insufficient; next come potash and nitrogen; then, lime and sulphuric acid, and rarely magnesia.

But the infertility of soils is due to physical causes perhaps nearly as often as to chemical. Soils often do not have the proper texture, they are too compact or too loose, or they lack absorptive power, they can not retain the plant-food until plants use it, but suffer it to be leached away by drainage-water; or the moisture-supply is bad—they are too wet or too dry. These defects are as bad as lack of plant-food. Many soils need first amendment and then manure. Drainage, irrigation, tillage, use of lime or muck, are often the cheapest if not the only means for bringing up poor soils. *Season* counts for much, often for everything, in the action of manure.

9. As to the *feeding capacities of the crops*, the experiments imply that the corn was somehow able to gather nitrogen from natural sources, provided it had enough of the mineral ingredients at its disposal. They do not tell how much of the nitrogen came from the roots of the preceding crops, how much from other nitrogen compounds in the soil, and how much from the air. They imply that potatoes possess in far less degree than corn the power of gathering sufficient supply of either nitrogen or the other ingredients of its food from soil and air. They imply that turnips are generally unable to provide themselves with phosphoric acid from the soil, and are greatly helped by it in fertilizers, and that without its application they usually get but little good from other materials; that with it alone they can generally gather but a partial supply of the other materials of their food; and that for a full yield considerable quantities of all the soil ingredients of plant-food are needed close at hand and in available forms.

10. Leaving differences of soils out of account, and considering the average results of the experiments, the best fertilizer to produce large crops of *corn* among the materials used would probably be a mixture of some nitrogenous material with superphosphate or bone, or both, and muriate of potash. The most profitable mixture would probably consist of muriate of potash with either superphosphate or fine ground bone, or both.

11. For *potatoes*, which responded well to all the materials, probably a mixture containing nitrogen, phosphoric acid, and potash. For either corn or potatoes, nitrate of soda, sulphate of ammonia, dried blood, or better, a mixture of these, could be advantageously used to supply the nitrogen, and superphosphate or bone-dust, or a mixture of the two, for phosphoric acid.

12. The common impression among farmers that the best use of artificial fertilizers is to supplement farm manure is doubtless, in ordinary circumstances, correct. The right way is to make the most and best manure that is practicable upon the farm, and piece out with such commercial fertilizers as experiments and experience prove profitable.

FIELDS, JAMES THOMAS, born December 31, 1817, in Portsmouth, New Hampshire; died April 26, 1881, in Boston. At the age of four years he lost his father, who was a ship-master. His education was acquired in his native town, and when only thirteen years of age he graduated at the high-school, having taken several prizes for Greek and Latin compositions. Before graduating he had attracted the attention of the late Chief-Justice Woodbury, who advised him to continue his studies and enter Harvard University; but this advice, for good reasons, was not followed, and in 1834 the lad went to Boston, where he obtained employment in the bookstore of Messrs. Carter & Hendee, this firm being succeeded by that of Allen & Ticknor, which in turn was succeeded by that of Ticknor & Fields in 1846, Mr. Fields

having become a partner in the house soon after reaching his majority. Meantime he had acquired an enviable social position, and at the age of eighteen had been invited to deliver the anniversary poem before the Mercantile Library Association of Boston—Edward Everett being the orator. "Commerce" was the subject of the poem. In 1847 he visited Europe, passed several months in England, Scotland, and Germany, and formed intimacies with some of the most distinguished literary people of the day; among whom were Talfourd, Dickens, Moore, Landor, and Wordsworth, at whose home he became a guest. With Dickens he formed a very close friendship, and it was through his influence that the famous novelist made his second visit to this country in 1867, at which time Dickens was the guest of Mr. Fields. While returning to America after his first tour, Mr. Fields narrowly escaped shipwreck on the coast of Newfoundland, the ship having struck the coast in a fog, sprung a leak, and was with difficulty kept afloat and taken into port. In 1848 Mr. Fields was again the poet at the anniversary celebration of the Mercantile Library Association, and on this occasion Daniel Webster was the orator. The subject chosen by Mr. Fields was "The Post of Honor." Before the same association he delivered a lecture upon "Preparations for Travel," which was full of sensible advice, well seasoned with humor. Often called upon to deliver poems and lectures, Mr. Fields appeared as a poet or lecturer before the societies of Harvard University, and Dartmouth and other colleges. A volume of his poetical compositions was published in Boston in 1843, and in 1858 he privately printed a beautiful volume, entitled "A Few Verses for a Few Friends," of which the "North American Review" made the following comment:

This book itself, apart from its contents, is a poem. In paper, type, edging, and ornament—in all the variable details of mechanical execution—it vindicates its title to be termed a work of high art. The poems it contains are gems well worthy the setting—pure thought, genial feeling, tender remembrance, and lambent fancy in natural measures and easy rhythm—such poems as always win a higher fame than they seek, and are best appreciated by those whose verdict is of the most significant import.

A second visit was made to Europe in 1851, and Mr. Fields was in Paris in December of 1851, when the *coup d'état* of Louis Napoleon took place. He witnessed the encounter between the troops and the populace upon the boulevards, and at the same time a house near him was shattered by a cannon-ball. During this trip he spent a winter in Italy—chiefly in Rome—and while in England passed three months in London, where he was the honored guest in cultivated circles, and invited to membership in the leading clubs. Literary people paid him great attention, and rendered his visit profitable as well as pleasant. A visit to Edinburgh gave him the opportunity for enjoying an intimate acquaintance with Professor Wil-

son and Thomas De Quincey. The latter welcomed him to his house, and accompanied him on several excursions in Scotland. One day they walked fourteen miles together on a visit to Roslin Castle, De Quincey beguiling the time, and cheating the miles of their weariness, with anecdotes of earlier days, when Coleridge, Southey, and Charles Lamb were his companions among the Westmoreland hills. In 1858 Mr. Fields collected, edited, and published the first complete edition of De Quincey's works, in twenty volumes. While contributing the productions of his busy brain to the literature of his time, and enjoying the pleasures of travel, Mr. Fields was energetically assisting in the business to which he had devoted himself in boyhood, and the firm of which he was a member held a leading position in the book-trade of America. From the time Mr. Fields entered it until his retirement from business on January 1, 1871, the firm, under its several changes of name, advanced steadily with the times, and for years the books bearing its imprint have been noted for their sterling character and for the beauty of their mechanical execution. Today two of the most prominent publishing firms in the world represent the firm of Fields, Osgood & Co., which was dissolved on the retirement of Mr. Fields—Houghton, Mifflin & Co. being the direct successors, while the firm of James R. Osgood & Co. is an offshoot. During the later portion of his career, Mr. Fields edited the "Atlantic Monthly," which was established in November, 1857, by Messrs. Phillips & Sampson, with Professor James Russell Lowell as editor. In January, 1860, this magazine passed into the hands of Ticknor & Fields, and largely owes its success in the world of periodical literature to the labors of the distinguished poet and publisher.

After withdrawing from active business, Mr. Fields occupied his leisure with such literary pursuits as were most congenial to him. In 1858 he received the honorary degree of A. M. from Harvard University, and in 1867 that of LL. D. from Dartmouth College, and to the last his private life comported well with his public honors. Those saw him best who met him in his own home, environed by the books, the pictures, and the personal mementos dear to his heart. His large, strengthful frame, genial face, and massive head, covered with dark hair tinged with gray, appeared to their highest advantage in the spacious library where most of his time was spent, and from whose windows a fine view of the Charles River was presented. Here the grave discourse of the scholar was brightened by the sparkling wit and varied narrative of the traveled man of the world; nor did the silent presence of the ten thousand or more volumes that composed his library check the generous outflow of sympathy which is inseparable from opulent natures. In a small study adjoining his library Mr. Fields did most of his writing. Two tiers of book-shelves, forming an alcove by his desk,

held the books which he most frequently consulted; the walls were adorned with portraits and the choicest of his literary memorials and autographs—autograph copies of Tennyson's "Bugle-Song," and Mrs. Hemans's "The Breaking Waves dashed high," among them. Admittance to this room, and the sight of its treasures, were things to be remembered. In the fourth story of this house is a room known as "the Author's Chamber," which has been occupied by Hawthorne and Whittier, by Dickens, MacDonald, Thackeray, Kingsley, and many other distinguished men of letters. Adjoining it is a study well filled with books, and with furniture that is old and quaint. Mr. Fields's summer-house was on Thunderbolt Hill, at Manchester-by-the-sea, with charming outlooks, land and seaward. Mrs. Fields, the author of "Under the Olivés," had christened it Gambrel Cottage, and Mr. William Black, in his novel, "Green Pastures and Piccadilly," describes the view from its verandas. Mr. Fields contributed to the leading periodicals of the day, and his writings are distinguished for a clear and finished style and for their accuracy. His "Yesterdays with Authors" is a volume made up of a series of sketches first published in the "Atlantic Monthly," under the title of "The Whispering Gallery," and afterward considerably enlarged. It contains papers of anecdote, reminiscences, and criticisms relating to Thackeray, Hawthorne, Dickens, Wordsworth, Miss Milford, and "Barry Cornwall and some of his Friends." Several of these were afterward published as separate volumes in the "Vest-Pocket Series." "Underbrush" is a small volume in the "Little Classic" form, containing a number of essays on literary and social topics, among them one entitled "My Friend's Library," in which is given a pleasant account of some of his own literary treasures.

"The Family Library of British Poetry" is a stout volume of a thousand pages, containing selections from the best British poets from Chaucer to Tennyson, and edited by Mr. Fields and Mr. Whipple conjointly. Under such editorship the book could not fail to be a most valuable one. A companion volume, devoted to British prose, was projected by Mr. Fields. "Ballads and other Verses" is made up in part of poems that had been previously privately published, and in part of fresh material; these poems vary from grave to gay, and were accorded a very warm welcome. Some of Mr. Fields's most valuable literary labor was expended on lectures delivered before large and appreciative audiences in various parts of the country. Of these, the lectures upon "Charles Lamb and his Friends"; "Sydney Smith and his Work in Life"; "Christopher North, with Personal Recollections"; "Alfred Tennyson, the Man and the Poet"; "Fiction and its Eminent Authors"; "Literary and Artistic Society in London"; "Wordsworth, De Quincey, Keats, and Shelley"; "Longfellow, Campbell, and Hood"; "Cowper"; "Hawthorne";

"Rufus Choate"; "A Plea for Cheerfulness," etc., were enriched with reminiscence, and enlivened by humor that rendered them everywhere popular. Mr. Fields never abandoned his pen-work, and the latest issue of "The Congregationalist," dated April 26, 1881, has an article, "Letters from an Old Treasure-Box," in which he writes of Bayard Taylor, and gives some interesting letters which he received from him in 1846-'54.

So active and useful a man must be a serious and much-lamented loss to any community. During a period covering half a century, Mr. Fields was identified with the interests of Boston, and filled a large sphere in its local life; his share in the development of its literary interests will fix his name high in the chronicles of its literary history. Nor will he be soon forgotten among the champions of philanthropy and religion, with whom he wrought as zealously as was possible, considering the various demands in other directions upon his time and energies.

FINANCES OF THE UNITED STATES.
Notwithstanding the moderate harvests in some portions of the country, there has been no apparent check during the year 1881 to the abundant prosperity which for several years the nation has enjoyed. In that portion of the great Northwest which geographers, a few years since, were pleased to distinguish as the Great American Desert, and which still later has been officially pronounced as an arid waste, immense sections of land, of surprising fertility, have been opened to settlers, and already the surplus grain of the country is mostly produced west of the Missouri River, thus adding to the growing wealth of the country the resources, as it were, of a new continent. To these newly developed regions have gone the surplus capital and labor of the East, for both of which remunerative employment has been found. The individual prosperity which has so generally prevailed, has been reflected in the financial experience of the Government. Without additional imposition of taxes the revenues of the country have been largely increased over those of last year, while by judicious and economical management the expenses have been somewhat reduced in the same period.

The receipts of the Government for the fiscal year ending June 30, 1881, have been as follows:

From customs.....	\$198,159,676 02
From internal revenue.....	135,264,385 51
From taxes on circulation and deposits of national banks.....	8,116,115 72
From miscellaneous sources.....	19,242,115 82

Total..... \$360,782,292 57

During the same period the expenditures were:

For interest on the public debt.....	\$32,508,741 18
For pensions.....	50,059,279 62
For military establishment.....	40,466,460 55
For naval establishment.....	15,686,671 66
For civil expenses.....	17,941,177 19
For foreign intercourse.....	1,093,954 92
For Indians.....	6,514,161 09
For miscellaneous.....	46,442,441 83

Total..... \$267,712,887 59
Leaving a surplus of..... 100,069,404 98

Compared with the previous fiscal year, the receipts have increased as follows: In customs revenue, \$11,637,611.42; in internal revenue, \$11,255,011.59; in tax on circulation and deposits of national banks, \$1,101,144.28; in miscellaneous, \$5,359,133.81; making a total increase of revenue over previous year of \$29,352,901.10. The expenditures show a net decrease over previous year of \$6,930,070.19, the principal item of decrease being that of interest on the public debt, \$13,248,833.93.

Of the amount of surplus revenues for the year, \$14,637,023.93 remained in the Treasury at the close of the year. The remainder, \$85,-432,381.05, was applied to the purchase or redemption of obligations of the United States, all of which were interest-bearing, except the comparatively small amount of \$109,001.08 of fractional notes.

This excess of revenue promises to continue.

For the quarter ending September 30, 1881, the receipts have amounted to \$108,181,043.09, against \$97,889,239.92 for the same period in 1880; and the expenditures to \$75,051,739.39, against \$77,018,531.78 for same period in 1880. The accounts have not been closed to a later date, but the indications strongly point to an annual surplus largely in excess of that of last year, unprecedented as that was in amount.

The condition of the Treasury, however, is shown by statements published at the close of each month. As compared with January 1, 1881, the condition of the public Treasury, at the beginning of the present calendar year, may be stated as follows:

Statement showing assets and liabilities of United States Treasury on the 1st day of January, 1881 and 1882:

ASSETS.	January 1, 1881.	January 1, 1882.
Gold coin.....	\$61,481,244 71	\$34,689,864 73
Gold bullion.....	95,260,851 06	87,077,602 65
Standard silver dollars.....	48,190,518 00	69,559,987 00
Fractional silver.....	24,769,057 32	25,963,641 48
Silver bullion.....	6,133,224 05	3,607,829 86
Gold certificates.....	130,500 00	.....
Silver certificates.....	9,454,419 00	6,359,910 00
United States notes.....	15,741,818 06	25,992,799 99
National bank notes.....	4,242,828 20	5,667,691 02
Deposits in national banks...	12,901,607 22	13,263,097 76
Nickel and minor coins.....	850,856 37	395,374 90
Fractional currency.....	53,665 64	18,696 26
Redeemed bonds, etc.....	9,723,179 35	10,993,526 33
Total.....	\$258,983,768 98	\$333,394,971 98
LIABILITIES.	January 1, 1881.	January 1, 1882.
Post-Office account.....	\$2,354,195 79	\$4,918,252 04
Disbursing officers.....	19,834,984 31	22,521,325 87
Fund for redeeming notes of national banks failed, in liquidation or reducing circulation.....	20,852,614 85	29,202,678 10
Five percent fund for redeeming national bank notes...	15,348,997 87	16,551,079 83
Other funds in nature of trusts	7,602,383 45	6,127,744 61
Gold certificates.....	6,653,880 00	5,183,120 00
Silver certificates.....	45,582,130 00	68,675,230 00
Clearing-house certificates..	7,005,000 00	9,590,000 00
Matred bonds at interest...	29,958,220 89	25,508,231 71
Balance.....	133,756,356 82	145,112,315 62
Total.....	\$288,983,768 98	\$333,394,971 98

It will be noticed that the amount of gold coin and bullion held by the Treasury has increased during the year about \$15,000,000; silver dollars \$21,000,000, and United States notes \$10,000,000. The increase of gold coin arose mainly from an order of the Treasury Department, under which gold coin was received from depositors in exchange for silver certificates, redeemable only in silver dollars. Such was the demand for certificates in exchange for gold, that on November 1st almost the entire amount of silver dollars held by the Treasury was represented by outstanding certificates, and in consequence the order was revoked, the law not permitting an issue of such certificates in excess of the coin held for their redemption. At that time there were of these certificates outstanding \$66,327,670, an increase in three months of about \$15,000,000. As these certificates are redeemable, as stated, only in silver dollars, which are worth in intrinsic value only about eighty-eight per cent of the gold coin received, there has been an apparent advantage to the department in these transactions of about twelve per cent on the amount issued, the Government having by these transactions transferred to private parties at par the ownership of the silver dollars. But the certificates are also receivable by the department in payment of all public dues, at the par of gold, the transactions of the country being conducted on a gold basis, and the certificates, as well as the coin they represent, consequently, for the present, circulate at a gold valuation, and will doubtless continue to do so as long as there are no more of them afloat than can be conveniently used in payment of public dues. The certificates are not legal tender in private transactions, and when there comes an excess of them beyond the amount needed in public payments the holders can have no redress but to accept in their stead the silver dollars which they represent, and which the Treasury is obliged to hold for their redemption. The dollars thus received are a legal tender for all purposes, and in time, if the coinage of them continues imperative, must furnish the basis of value for the circulation of the country, and that basis then will be in accordance with the intrinsic value of the coins, not with the fictitious value at which they now circulate. Were the coinage of silver dollars unrestricted, as in the case of gold coins, the circulation of the country would at once fall to the silver basis, as the holders of silver bullion could have the same converted into dollars worth for circulation as much as so many dollars in gold, though containing but eighty-eight per cent of value, while the holders of gold bullion would find more profit in selling the same for commercial or other purposes at market rates. But holders can not have silver bullion converted into a lawful equivalent in weight of silver dollars, for the Government purchases the silver bullion at the best rates obtainable, and manufactures the coins only on its own account, turn-

ing the profit into the public Treasury, getting for about \$88 in gold enough bullion to make 100 silver dollars of standard weight. Already, to November 1, 1881, there have been coined from silver bullion thus purchased more than 100,000,000 silver dollars, of which there remained in the Treasury, as before stated, about \$66,000,000, the remainder being in active circulation. Under existing law the coinage of these dollars must continue at a rate of not less than \$2,000,000 per month, and, as all further issues have recently returned to the Treasury, it would seem that the limit of circulation of these coins has practically been reached. Hereafter they must accumulate in the vaults of the Treasury, to be represented in circulation either by certificates issued thereon, thus steadily inflating the paper circulation of the country with certificates actually worth, as before stated, only the value of the coin they represent, or the dollars will remain in the Treasury to the exclusion of gold coin, and become the only currency with which payment of public dues can be met, or the redemption of United States notes be made. In either event there is but one result foreshadowed—the reduction of the currency of the country to the standard of the silver dollars, and the exclusion of gold coin from circulation. This cloud in the financial horizon has not arisen unexpectedly. Foreseeing it, Congress embodied, in the act of February 28, 1878, authorizing the coinage of the standard silver dollar, a provision directing the President of the United States to invite the Governments of the so-called Latin Union, and such other European nations as he might deem advisable, to join the United States in a conference to adopt a common ratio between gold and silver for the purpose of establishing internationally the use of bi-metallic money and securing fixity of relative value between those metals. The Latin Union referred to consisted of France, Belgium, Switzerland, and Italy. Under a treaty the Union had issued silver and gold coins from its respective mints at the ratio of 15½ of silver to 1 of gold, but, on account of the great depreciation in the value of silver, it had been compelled to suspend such coinage, to avoid driving the gold coins from circulation. The invitation to join the United States in the proposed conference was accepted by the Union and by several other states, and the conference was held in Paris, in August, 1878. The delegates from the United States requested those invited to pronounce upon the two following propositions:

1. It is the opinion of this assembly that it is not to be desired that silver should be excluded from free coinage in Europe and the United States of America. On the contrary, the assembly believe that it is desirable that the unrestricted coinage of silver, and its use as money of unlimited legal tender, should be retained where they exist, and, as far as practicable, restored where they have ceased to exist.

2. The use of both gold and silver as unlimited legal-tender money may be safely adopted: first, by

equalizing them at a relation to be fixed by international agreement; and, secondly, by granting to each metal, at the relation fixed, equal terms of coinage, making no discrimination between them.

These propositions were discussed, but did not become the subject of a general vote. The English and French delegates prepared an answer to be made by the European to the American delegates, which was adopted, as follows:

The delegates of the European states, represented in the conference, desire to express their sincere thanks to the Government of the United States for having procured an international interchange of opinion upon a subject of so much importance as the monetary question.

Having maturely considered the proposals of the representatives of the United States, they recognize:

1. That it is necessary to maintain in the world the monetary functions of silver, as well as those of gold, but that the selection for use of one or the other of the two metals, or of both simultaneously, should be governed by the special position of each state or group of states.

2. That the question of the restriction of the coinage of silver should equally be left to the discretion of each state or group of states, according to the particular circumstances in which they may find themselves placed, and the more so in that the disturbance produced during the recent years in the silver market has variously affected the monetary situation of the several countries.

3. That the differences of opinion which have appeared, and the fact that even some of the states which have the double standard, find it impossible to enter into a mutual engagement with regard to the free coinage of silver, exclude the discussion of the adoption of a common ratio between the two metals.

Notwithstanding that the proposition of the United States was declined with thanks, in which expression even some of the nations having a bi-metallic currency joined, though their interest in maintaining a fixity of value in the ratio between the two metals would seem at least to have been as great as that of the United States. Here, for some time, the matter rested, but the continued depression in the price of silver and a threatened stringency in monetary affairs, kept the subject under discussion, and in February, 1881, the Governments of France and the United States extended a joint invitation to the European nations to take part in a conference between the powers chiefly interested in the question of establishing the use of gold and silver as international money.*

The conference was to examine and adopt, for the purpose of submitting the same to the governments represented, a plan and a system for the establishment, by means of an international agreement, of the use of gold and silver as bi-metallic money, according to a settled relative value between these two metals.

The conference assembled in Paris, April 19, 1881, and delegates were present from Austro-Hungary, Belgium, Denmark, Greece, Italy, the Netherlands, Portugal, Russia, Sweden, Norway, Spain, Switzerland, United States of America, and from France. The delegates from Germany, Great Britain, British India, Canada, Denmark, Portugal, Russia, Greece, Austro-Hungary, Sweden, Norway, and Switzer-

land, respectively, announced at once important reservations on their part.

The delegates from Germany stated that between 1865 and 1870 a considerable quantity of gold found its way into the treasury of the German Empire, and that the Government took advantage of the occasion to firmly establish its monetary system upon the basis of a gold standard, and that this reform was now in a very advanced state; that almost 1,747,000,000 marks had been struck in gold coin, while 1,080,000,000 marks in silver coin of earlier mintage had been demonetized, the last of the operations amounting to 44,000,000 marks. They also stated that there still remained in Germany at most only 500,000,000 marks in silver thalers, and declared that this reform had sensibly bettered the condition of the monetary circulation in Germany; but, although they considered the monetary system of Germany as established upon solid foundations, still they had not failed to recognize the import of the fall of silver which had since occurred, and, to relieve the Latin Union from the apprehension that half a billion more of marks in old silver thalers would be thrown upon the market as silver bullion, Germany had, in May, 1879, resolved to suspend its sales of silver, and they had not since been resumed. The delegates, however, recognized without reserve that a rehabilitation of silver was to be desired, and, that it might be attained by the re-establishment of a free coinage of silver in a certain number of the most populous states represented at the conference of these states, to that end should adopt as a basis a fixed relation between the value of gold and that of silver. Nevertheless Germany, whose monetary reform was already so far advanced, and whose general monetary situation did not seem to call for a change of system so vast in scope, did not find herself in a position, so far as she was concerned, to concede the free coinage of silver. Still, having a disposition to assist the other powers which might unite for the purpose of a free coinage of silver at a fixed ratio with gold, Germany would agree for a period of some years to abstain from all sales of silver, and during another period of a certain duration would pledge itself to sell annually only a limited quantity, so small in amount that the general market would not be glutted thereby. It would also engage to eventually retire from circulation 27,750,000 five-mark gold-pieces, thus giving to silver a greater field for circulation at home; and it would, perhaps, melt down and recoin 172,000,000 old five- and two-mark silver-pieces at a ratio between the two metals of about 1 to 15½, whereas at present the ratio is 1 to 14.

This remarkable proposition, stripped of all technical verbiage, was as if Germany should say: "Gentlemen of the other powers, believing you to be in earnest in your proposition to establish a fixed relative value between gold

* See BI-METALLIC STANDARD, p. 60. At the hazard of some slight repetition, further proceedings of the Bi-Metallic Conference are here inserted and considered.—Ed.

and silver, and that value to be as 1 to 15½, Germany offers her prayers for your success. She will not herself return to the free coinage of silver, but she will kindly hold 2,500 tons of old silver thalers, worth now about 77 per cent of their face value in gold, until, in accordance with your own theories, by your free coinage of silver, you will place so much of that metal into new channels of circulation, or into strong vaults, that its price will be enhanced, and a fixed relation of equal value between gold and silver will be secured, and when that time comes we will unload our silver upon you in exchange for your gold, at a profit of 23 per cent, and we are now prepared to discuss the details of the execution."

The delegates of Great Britain then followed, saying that for more than sixty years the monetary system of the United Kingdom had been on gold as a single standard; that this system had satisfied all the needs of the country, without giving rise to those disadvantages which had shown themselves elsewhere and under other monetary regulations. The Government of her Majesty could not therefore take part in a conference as supporting the principle of the double standard; but the representatives at London, of the United States, having declared that the powers represented at the conference reserved to themselves entire liberty of action after the discussion, the Government of her Majesty considered that it would be lacking in consideration toward friendly powers to persist in its refusal to send a delegate from the United Kingdom. Thus he had come, and he stood ready to furnish any information desired concerning the laws on the monetary system of England, but he was not permitted to vote upon any proposition which might be submitted to the conference. Subsequently he presented to the conference a communication from the Bank of England to the British Government, setting forth to what extent the bank could aid the proposed league of countries for the rehabilitation of silver. The communication was submitted on account of a declaration of the Italian Government of the conditions on which it would enter such a league, and was in these words:

The Bank Charter Act permits the issue of notes upon silver, but limits that issue to one fourth of the gold held by the bank in the issue department.

The purchase of gold bullion is obligatory and unlimited, the purchase of silver bullion is discretionary and limited, the distinction being enforced by the necessity of paying all notes in gold on demand.

The re-appearance of silver bullion as an asset in the issue department of the Bank of England would, as is understood by the Foreign-Office letter, depend entirely on the return of the mints of other countries to such rules as would insure the certainty of conversion of gold into silver, and silver into gold. The rules need not be identical with those formerly in force; the ratio between silver and gold, and the charge for mintage, may both or either of them be varied and yet leave unimpaired the facility of exchange, which would be indispensable to the resumption of silver purchases by a bank of issue whose responsibilities are contracted in gold.

Subject to these considerations, the Bank Court are satisfied that the issue of their notes against silver, within the letter of the act, would not involve the risk of infringing that principle of it which imposes a positive obligation on the bank to receive gold in exchange for notes, and to pay notes in gold on demand.

The Bank Court see no reason why an assurance should not be conveyed to the monetary conference at Paris, if their lordships think it desirable that the Bank of England, agreeably with the act of 1844, would be always open to the purchase of silver under the conditions above described.

The proposition of the Bank Court was a worthy rival to that of the delegates of Germany. In substance it proposed to accumulate silver in its vaults worth, in gold, considerably less than its face value, so long as other countries than Great Britain would "leave unimpaired the facility of exchange" by which it could at any time obtain gold therefor, par for par, at a handsome profit.

Notwithstanding the dispiriting responses of the two great powers, Germany and Great Britain, the conference proceeded to the discussion of the following *questionnaire* which had been prepared for it by a committee of its own body:

1. Have the diminution and the great oscillations which have taken place in the value of silver, chiefly within the last few years, been hurtful or not to commerce, and consequently to general prosperity?

Is it desirable that the relation of value between the two metals should possess a high degree of stability?

2. Should the phenomena referred to in the first part of the preceding question be attributed to increase in the production of silver, or to acts of legislation?

3. Is it or is it not probable that, if a large group of states should agree to the free and unlimited mintage of lawful coins of the two metals, with full legal-tender faculty at a uniform ratio between the gold and silver contained in the monetary unit of each metal, a stability in the relative value of these metals would be obtained, which, if not absolute, would at least be very substantial?

4. If so, what measures should be taken to reduce to a minimum the oscillations in the relative value of the two metals?

For instance:

1. Would it be desirable to impose upon privileged banks of issue the obligation to receive, at a fixed price, any gold and silver bullion which the public might offer?

2. How could the same advantage be secured to the public in countries where privileged banks of issue do not exist?

3. Should coinage be gratuitous, or, at least, uniform, for the two metals in all countries?

4. Should there be an understanding that international trade in the precious metals should be left free of all restraint?

5. In adopting bi-metallism what should be the ratio between the weight of pure gold and of pure silver contained in the monetary units?

On these propositions a long discussion ensued, eliciting much valuable information, but it seemed to be generally conceded that without the co-operation of the two great powers, which had been conspicuous in declining all propositions with a view of countenancing any purpose on their part of returning to a double standard, the convention must ultimately fail of its purpose. As indicating more definitely the purpose of France and the United States,

Mr. Evarts, in behalf of the delegates of those two countries, submitted, on the last day of the session, the following declaration:

The delegates of France and of the United States, in the name of their respective governments, make the following declarations:

1. The depreciation and great fluctuations in the value of silver relatively to gold, which of late years have shown themselves, and which continue to exist, have been, and are, injurious to commerce and to the general prosperity, and the establishment and maintenance of a fixed relation of value between silver and gold would produce most important benefits to the commerce of the world.

2. A convention, entered into by an important group of States, by which they should agree to open their mints to free and unlimited coinage of both silver and gold, at a fixed proportion of weight between the gold and silver contained in the monetary unit of each metal, and with full legal-tender faculty to the money thus issued, would cause and maintain a stability in the relative value of the two metals suitable to the interests and requirements of the commerce of the world.

3. Any ratio, now or of late in use by any commercial nation, if adopted by such important group of states, could be maintained; but the adoption of the ratio of 15½ to 1 would accomplish the principal object with less disturbance in the monetary systems to be affected by it than any other ratio.

4. Without considering the effect which might be produced toward the desired object by a lesser combination of states, a convention which should include England, France, Germany, and the United States, with the concurrence of other states, both in Europe and on the American Continent, which this combination would assure, would be adequate to produce and maintain throughout the commercial world the relation between the two metals that such convention should adopt.

After the conference had held but thirteen sessions, upon the suggestion of the two Governments of France and the United States at whose instance it was convened, it was adjourned to April 12, 1882. In submitting the proposition of adjournment, M. Denormandie, a delegate of France, said:

We can not disguise from ourselves that the observations just now submitted to you tend to nothing less than to establish, at least virtually, that nothing has been done here but an imperfect, useless, and empty work.

Had the proposition submitted by Mr. Evarts on behalf of France and the United States been accepted, even as a unanimous expression of the opinion of the conference, it is very doubtful if it would have received the sanction of the United States Government. The chief embarrassment under which the Government has labored in the coinage of silver since 1878, has been the lack of intrinsic value in silver; eighteen ounces being hardly equal in value to one ounce of gold, although by law sixteen ounces of it are declared to be equal to one of gold, and any proposition looking to further reducing this lawful equivalent would hardly be sustained. Should the proposition obtain, however, all our present silver dollars would be undervalued and would either be melted down for bullion or shipped from the country. There is not much reason to believe that the coinage of all the silver which could be used in

circulation in all the countries named would materially enhance its value, though perhaps it might check its depression, and the country would soon have a currency based upon silver whose dollar would be of even less value than the present one, leading to complications, not to say repudiation and dishonesty.

The question of the future coinage of the country is at best fraught with many serious difficulties, and there is but little hope that the further session of the convention as proposed can give us relief. Silver is not coined to-day by any European power without restrictions, and this country can not well give it unrestricted coinage here, without making our ports the dumping-grounds for all the silver of Europe now waiting for a market. On the other hand, an entire cessation of silver coinage by the United States, and a complete return to the single standard of gold, would likely be followed by like action in self-protection by all the European powers, thus for ever barring silver from circulation except as a subsidiary coin for making change, a result, it is believed, which would temporarily, at least, seriously disturb the monetary affairs of the world.

In any future discussion concerning the circulating medium of a country, the use of checks in making payments will doubtless be considered as an important factor. In this country especially has the use of checks for such purposes been extensively employed, reducing, to that extent, the necessity for money of any kind for circulating purposes.

In the London "Banker's Magazine" for November, Mr. Pownall estimates the percentages of receipts of coin, notes, and checks, in several European localities, as below, to which has been added those of New York city, as stated by the Comptroller of the Currency:

LOCALITIES.	Coin.	Notes.	Checks.
New York.....	·55	·65	98·80
London.....	·73	2·04	97·23
Edinburgh.....	·55	12·67	86·78
Dublin.....	1·57	8·53	89·90
Country banks in 261 places.....	15·20	11·94	72·86

Additional statistics published by the Comptroller of the Currency show that of \$52,118,185, received by 1,895 banks outside of the principal cities of the United States, 81·7 per cent was in checks. In the large cities the receipts in checks were over 90 per cent. Such an extensive use of checks in business must necessarily diminish largely the necessity of actual money for circulation.

It will be noticed that there were outstanding about \$5,000,000 of gold certificates. These certificates were issued upon deposits of gold, and are redeemable on presentation in that metal. Under a decision, or at least with the consent of the Treasury authorities, national banks have counted these certificates as part of their lawful reserve, though they are not legal tender, and are receivable by the Government only in payment of duties on im-

ports. The further issue of these certificates was suspended by an order of the late Secretary Sherman, in December, 1878, just before the resumption of specie payments, and, though considerable demand has existed for them, the order for their discontinuance has not been revoked. The objection to their issue seems to be that the banks, in such an event, would use them for a reserve, thus forcing the Government to store the coin for their redemption. The Government is required by law to issue silver certificates upon deposit of silver dollars, and to hold the deposit or its equivalent, and if the policy is objectionable in one case it certainly is in the other. There seems to be, however, some sentiment in favor of the Government's holding coin and issuing certificates thereon for circulation, and, while a paper currency thus issued is safe for the holders, such a line of policy is contrary to the long-established usages of the Government, and creates a central money power with which, perhaps, no European government would trust its executive officers.

In other ways the Government is also doing a business strikingly analogous to that of banking. To redeem the legal-tender notes of the United States, after January 1, 1879, upon their presentation at the office of the Assistant Treasurer, at New York, as required by the resumption act of 1875, the Treasury accumulated \$95,500,000 in gold coin by the sale of bonds, and held an additional amount, accruing from surplus revenues, to meet any probable demand for the redemption of the notes, of which there were outstanding \$346,000,000. The law fixed no limit on the fund which should be held for this purpose, but Mr. Sherman, who was Secretary of the Treasury when the act went into effect, decided that, after setting aside of the cash in the Treasury enough to meet in full the amounts due public disbursing officers, and the funds held by the Treasury in the nature of trusts, and an amount sufficient to meet all matured bonded debt and interest, there should be held about \$138,000,000 to meet the redemption of the outstanding notes, being about 40 per cent of their amount, and this policy has not been materially changed by his successors. It is argued that, as there is no probability that demand for payment of all the trust funds, matured bonds, and interest will be made at once, the reserve might be considerably reduced without detriment or danger. The legal-tender notes are asserted to be no more of a demand obligation than are matured bonds, and the other items against which a reserve of 100 per cent has been set aside. Reducing the reserve on the other demand obligations to 40 per cent of their amount, and the cash in the Treasury could be reduced nearly \$64,000,000, or, excluding the \$26,000,000 of fractional silver held by the Treasury and unavailable in making payments, about \$38,000,000. It is questionable, however, if any proposition to reduce the reserve

will find much favor in Congress. There is a strong feeling throughout the country that the policy of the Government in banking on its own credit is one to be restricted, not expanded, and that its entire extinction should be kept in view, that the Government may, as soon as practicable, be divorced from all financial operations not necessary to the conduct of its ordinary business.

During the year ending November 1, 1881, there was redeemed or purchased of 6 per cent bonds \$39,644,400; of 5 per cents, \$68,146,150; of 6s and 5s, continued at $3\frac{1}{2}$ per cent, as hereinafter explained, \$16,179,100—an aggregate of \$123,969,650, making an annual saving hereafter in interest of \$11,374,814.50. In addition to these transactions the Secretary of the Treasury reduced the annual interest to $3\frac{1}{2}$ per cent on \$178,055,150 of 6 per cents and \$401,504,900 of 5 per cents, without specific authority of law, the bill for refunding the bonds in question, which passed both Houses of Congress, having been vetoed by the President. As the vetoed bill contained provisions believed to be somewhat inimical to the national banks, the character of the legislation proposed becomes of importance as indicating the plan and strength of the attack likely soon to be made upon the existence of such banks as the time approaches for the renewal by Congress of their charters. Under the provisions of the original banking acts of February 25, 1863, and June 3, 1864, national banks were authorized to reduce their circulation and to withdraw their security bonds only upon surrendering their notes to the Comptroller of the Currency for cancellation, the amount of security bonds, however, not to be reduced to less than \$30,000, nor one third of the capital stock paid in. Any bank, however, going into liquidation for the purpose of winding up its business, could withdraw its security bonds upon depositing with the Treasurer of the United States legal-tender notes sufficient to redeem all its circulation. As the notes of the national banks circulated without restriction in all parts of the country, no sudden withdrawal of them from circulation, in the methods provided, was possible. Subsequently, under the provisions of the fourth section of the act of June 20, 1874, any national bank desiring to withdraw its circulating notes, in whole or in part, might, upon deposit of lawful money with the Treasurer of the United States in sums of not less than \$9,000, take up its security bonds, the amount of such bonds or deposit, however, not to be reduced below \$50,000.

Under the provisions of this section a bank could in a day lock up in the Treasury lawful money to a large proportion of its circulating notes. Thus a bank with \$250,000 in circulation could place in the Treasury \$210,000 in lawful money and withdraw all but \$50,000 of its security bonds, leaving to the Treasurer of the United States the duty of redeeming its notes to the extent of the deposit, whenever

such notes should come into his possession. There was nothing to prevent the bank from at once redepositing with the Treasurer of the United States the bonds withdrawn or any portion of them, or depositing other bonds and to receive therefrom from the Comptroller of the Currency new notes in proper proportion; and those transactions could be repeated indefinitely and in an amount to an extent limited only by the capacity of the officers mentioned to receive the bonds and to issue the new notes. No improper advantage, however, was taken by the banks generally of this privilege, and the provisions seemed in every way to be advantageous to the banking interests and not injurious to the Government. A few banks, however, did, from time to time, withdraw their security bonds, upon the deposit of lawful money, as provided, for the evident purpose of disposing of them and replacing them at lower rates upon a turn of the market in their favor. The Treasurer of the United States, in his annual report for 1880, called attention to these operations. In the few cases which had occurred, the Government suffered no special injury, but the transactions showed that a combination of banks might, under existing law, suddenly withdraw a large amount of money from circulation by depositing it in the Treasury on redemption account, thereby causing financial distress and a depression of prices, if not a serious panic. The opponents of the banks in Congress seized upon these reported transactions, which, even if much worse, could have been cured by a few lines of additional legislation, and ingrafted upon a bill for refunding the 5 and 6 per cents maturing in 1881, such additional, and, for refunding purposes, unnecessary legislation, that when the bill was finally perfected the important features of it were as follows:

That all existing provisions of law authorizing the refunding of the national debt shall apply to any bonds of the United States bearing a higher rate of interest than $4\frac{1}{2}$ per cent per annum, which may hereafter become redeemable: *Provided*, That in lieu of the bonds authorized to be issued by the act of July 14, 1870, entitled "An act to authorize the refunding of the national debt," and the acts amendatory thereto; and the certificates authorized by the act of February 26, 1879, entitled "An act to authorize the issue of certificates of deposit in aid of the refunding of the public debt," the Secretary of the Treasury is hereby authorized to issue bonds to an amount not exceeding \$400,000,000, of denominations of \$50, or some multiple of that sum, which shall bear interest at the rate of three per cent per annum, payable semi-annually, redeemable at the pleasure of the United States after five years, and payable twenty years from the date of issue; and also Treasury notes to an amount not exceeding \$300,000,000, in denominations of \$10, or some multiple of that sum not exceeding \$1,000, either registered or coupon, bearing interest at a rate not exceeding three per cent per annum, payable semi-annually, redeemable at the pleasure of the United States after one year, and payable in ten years from the date of issue; and no Treasury note of a less denomination than \$100 shall be registered. The bonds and Treasury notes shall be, in all other respects, of like character, and subject to the same provisions as the bonds authorized to be issued by the

act of July 14, 1870, entitled "An act to authorize the refunding of the national debt," and acts amendatory thereto.

SECTION 4. That the Secretary of the Treasury is hereby authorized, if in his opinion it shall become necessary, to use temporarily not exceeding \$50,000,000 of the standard gold and silver coin in the Treasury in the redemption of the five and six per cent bonds of the United States authorized to be refunded by the provisions of this act, which shall from time to time be repaid and replaced out of the proceeds of the sale of the bonds or Treasury notes authorized by this act; and he may at any time apply the surplus money in the Treasury not otherwise appropriated, or so much thereof as he may consider proper, to the purchase or redemption of the United States bonds or Treasury notes authorized by this act: *Provided*, That the bonds and Treasury notes so purchased or redeemed shall constitute no part of the sinking fund, but shall be canceled.

SEC. 5. From and after the 1st day of July, 1881, the three per cent bonds authorized by the first section of this act shall be the only bonds receivable as security for national-bank circulation, or as security for the safe-keeping and prompt payment of the public money deposited with such banks; but when any such bonds deposited for the purposes aforesaid shall be designated for purchase or redemption by the Secretary of the Treasury, the banking association depositing the same shall have the right to substitute other issues of the bonds of the United States in lieu thereof: *Provided*, That no bond upon which interest has ceased shall be accepted, or shall be continued on deposit as security for circulation or for the safe-keeping of the public money; and in case bonds so deposited shall not be withdrawn, as provided by law, within thirty days after interest has ceased thereon, the banking association depositing the same shall be subject to the liabilities and proceedings on the part of the Comptroller provided for in section 5234 of the Revised Statutes of the United States: *And provided further*, That section 4 of the act of June 20, 1874, entitled "An act fixing the amount of United States notes, providing for a redistribution of the national-bank currency, and for other purposes," be and the same is hereby repealed; and sections 5159 and 5160 of the Revised Statutes of the United States be and the same are hereby re-enacted. . . .

In anticipation of the bill becoming a law, 141 of the banks, located in twenty-four different States, deposited lawful money in the amount of \$18,764,434 for the purpose of obtaining possession of their security bonds, the money to be used in redemption of their notes. Considerable stringency in the money market resulted from this action. The President, however, vetoed the bill, on account of the provisions of the fifth section, stating his reasons therefor as follows: "... Under this section it is obvious that no additional banks will hereafter be organized, except possibly in a few cities or localities where the prevailing rates of interest in ordinary business are extremely low." (For the remainder of President Hayes's veto, see CONGRESS, UNITED STATES, page 172.—ED.)

But against the enactment of such a law, other and perhaps more potent reasons existed.

Under the provisions of the section in question, the Government, in redeeming its matured obligations, would have been compelled to discriminate between holders. Thus to other than a national bank holding the ma-

tured bonds lawful money would be paid, but to such a bank the Government would offer in payment, instead of money, another of its obligations bearing a lower rate of interest, and the banks would be obliged to accept it or to go out of business.

The objection was forcibly stated by Senator Bayard, upon the adoption of the section in the Senate, as follows: "I would here note that section 5 of the House bill contains what I have spoken of as the compulsory power of the Government proposed to compel subscription to its loans." (For further remarks of Mr. Bayard, see CONGRESS, UNITED STATES, page 153, at bottom.—ED.)

Mr. Bayard further spoke as follows: "I submit to the Senate that it is contrary and derogatory to the spirit of the American Government, which is a popular Government, professing to be based on the capacity of the people to govern themselves wisely, that the principle of compulsion for the reception of the loans of the Government should be forced upon any class of our people, or for any purpose. You tried it with your legal-tender Treasury-notes, and declared that they should be receivable in payment of all debts, public and private. There are laws stronger than the laws of Congress. You may possibly drive men out of a business, but they will conduct it as long as they remain in it by the light of self-interest, and compulsion will ever prove futile. Its attempt is a proof of conscious weakness, and its failure will be inevitable and speedy."

This measure being vetoed at the closing hours of the session, Congress adjourned without further action with a view of refunding the maturing debt. The only financial legislation effected was embodied in a clause in the "Sundry Civil" Bill, authorizing the Secretary of the Treasury to apply surplus money in the Treasury, not otherwise appropriated, to the purchase or redemption of United States bonds. This clause became necessary, as the surplus revenues were likely to exceed the amount required for the purchase of bonds for the sinking fund, and beyond that the Secretary had no authority to apply any moneys in the Treasury to the reduction of the bonded debt. The adjournment of Congress left the incoming Administration with a maturing debt of about \$650,000,000, largely represented by coupon bonds, with no means for its redemption. To avoid the calling of an extra session of Congress, a scheme was prepared and successfully carried out by which the exigency was avoided, and a great saving of interest secured. This plan and the operations thereunder were fully set forth in a letter by Secretary Windom to the American Bankers' Association, dated August 8, 1881, as follows:

It may be stated, however, that when I entered upon the duties of my present position, in March last, I found that of the bonded indebtedness of the Government, there were of 5 per cent bonds, redeemable at

the option of the Government after May 1, 1881, the amount of \$469,320,650, of which the amount of \$146,101,900 was represented by coupon bonds; and of 6 per cent bonds redeemable at the option of the Government after July 1, 1881, the amount of \$202,266,550, of which \$45,391,000 were represented by coupon bonds.

Only the coupons for the quarterly interest falling due on May 1, 1881, remained upon the coupon 5 per cents, and none upon the coupon 6 per cents, the next semi-annual interest on which would fall due on July 1, 1881.

The refunding act, by which it was proposed to retire all these bonds, and to issue therefor bonds bearing a lower rate of interest, with several years to run before the Government had the option of payment, after having received much consideration by Congress during the last session, had failed to become a law; and the only resources of the Government to meet the maturing obligations were the surplus revenues, and the amount of \$104,652,200 4 per cent bonds, being a part of those authorized by the acts of July 14, 1870, and January 20, 1871, and remaining unissued.

These resources were not sufficient to provide for all the maturing bonds, and, owing to the length of time which such 4 per cent bonds had to run before maturity, it was not deemed advisable to issue more of the loan, if such issue could well be avoided.

While there was no imperative necessity for providing for the registered bonds of the maturing loans, some plan was needed to meet the interest payments on the coupon bonds, and there seemed to be no practicable method of meeting these payments without considerable expense to the Government, as well as to the holders of the bonds.

Finally, to meet the demands of public creditors, and at the same time to avoid the calling of an extra session of Congress, which seemed to be the only other alternative, the plan was matured which has been put into operation, and has proved successful.

Under this plan, on April 11th, there was called for absolute payment on July 1, 1881, the small loan of \$688,200, bearing six per cent interest, and known as the Oregon war debt, and at the same time, for payment on the same date, the six per cent loans, Acts of July 17th and August 5, 1861, amounting to \$140,544,650, and act of March 3, 1863, amounting to \$55,145,750; but to the holders of the bonds of the two latter loans permission was given to have their bonds continued at the pleasure of the Government, with interest at the rate of $3\frac{1}{2}$ per centum per annum, provided they should so request, and the bonds should be received by the Treasury for that purpose on or before the 10th day of May, 1881; and in case of coupon bonds, registered stock of the same loan should be issued therefor.

The six per cent bonds to be continued were promptly received in a large amount, and new registered ones issued therefor, with the fact of their continuance stamped upon their face; but it was subsequently deemed advisable to extend the time for the receipt of the old bonds to May 20, 1881.

It was also found that foreign holders of the six per cent bonds were inclined to dispose of their investments rather than to send them to the Treasury for exchange; and the immediate payment of so many bonds abroad being likely to cause a drain of coin from this country, and to disturb business, an agency for the exchange of the bonds in London was established.

This plan for continuing the sixes has proved entirely satisfactory, there having been presented in due time for continuance at $3\frac{1}{2}$ per cent interest, the amount of \$178,055,150, leaving to be paid off from the surplus revenues \$24,211,400, for which the Treasury had ample resources.

Having succeeded in disposing of the six per cents, on May 12th the department gave notice that the coupon five per cent bonds of the loan of July 14, 1870, and January 20, 1871, would be paid on August 12, 1881,

with a like privilege of continuing the bonds at 3½ per cent to such of the holders as might present them for that purpose on or before July 1, 1881; and at the same time the Treasury offered to receive, for continuance, in like manner, any of the uncalled registered bonds of that loan to an amount not exceeding \$250,000,000, the remainder of the loan being reserved with a view of its payment from the surplus revenues.

The continued three-and-a-half per cent bonds having a market price slightly above par, the five per cents in question were rapidly presented, and it became necessary to extend somewhat the limit fixed for the amount of registered bonds to be accepted for continuance.

On July 1st a notice for the payment on October 1, 1881, of the registered fives not continued was given, and the resources of the Treasury will be ample to meet their payment. . . .

By this plan the department has been not only relieved from the embarrassment of providing for the payment of the coupon interest, but has reduced all the six and five per cent loans of the Government to a loan payable at the option of the Government, and bearing interest at only 3½ per cent per annum; and this, with the trifling expense to the Government of preparing the new registered bonds, and of paying the actual expenses of the London agency, at which only three persons have been employed for a few weeks, issuing about \$44,500,000 of the continued bonds. . . .

It is important to notice that no calls were made for bonds in excess of the ability of the department to meet their payment had they been presented for redemption instead of continuance.

In addition to the six per cent bonds continued as above stated, there were also subsequently continued in like manner of five per cent bonds \$401,504,900, making an annual saving in interest thereafter through these transactions of \$10,473,952.25.

The entire expenses incurred therein were less than \$10,000, and the scheme can hardly be regarded as other than a remarkable financial achievement.

The following table shows the condition of

the public debt of the United States, at the beginning and close of the calendar year 1881:

CHARACTER.	December 31, 1880.	December 31, 1881.
Bonds at 6 per cent.....	\$202,266,550 00	.....
Bonds at 5 per cent.....	469,651,050 00	.....
Bonds at 4½ per cent....	250,000,000 00	\$250,000,000 00
Bonds at 4 per cent.....	738,420,400 00	738,772,550 00
Bonds at 3½ per cent.....	.....	551,186,800 00
Refunding 4 per cent certificates.....	927,400 00	575,250 00
Navy pension fund.....	14,000,000 00	14,000,000 00
Interest on above.....	20,731,566 67	14,514,877 85
Debt on which interest had ceased.....	11,484,395 26	11,525,265 26
Interest on same.....	856,885 32	714,985 31
Demand and legal-tender notes.....	346,741,761 00	346,740,936 00
Clearing-House certificates.....	7,005,000 00	9,590,000 00
Gold certificates.....	6,658,880 00	5,188,120 00
Silver certificates.....	45,582,180 00	68,675,230 00
Fractional currency.....	7,147,580 12	7,075,926 92
Unclaimed Pacific Railroad interest.....	7,927 03	7,256 51
Total.....	\$2,121,481,475 40	\$2,018,869,697 85
Less cash in the Treasury	222,299,739 41	253,377,980 76
Net debt.....	\$1,899,181,735 91	\$1,765,491,717 09

During the fiscal year ending June 30th the influx of gold from foreign countries continued, there being a net import of \$5,836,058 of American coin and \$91,715,012 of foreign coin and bullion, of which latter amount \$91,499,168.61 found its way to the New York assay-office. Meanwhile it is believed that the domestic production of that metal had not diminished to any considerable extent.

The deposits at the several mints and assay-offices for the year, of gold and silver, have been as follows:

	Gold.	Silver.	Total.
Domestic production.....	\$35,815,036 55	\$23,477,059 21	\$64,292,095 76
United States coin.....	440,776 97	7,307 40	448,084 37
Foreign bullion.....	37,771,472 26	1,312,144 58	39,083,616 84
Foreign coin.....	55,462,385 74	784,432 22	56,196,817 96
Old jewelry, plate, etc.....	1,343,430 93	260,203 25	1,603,634 18
Total.....	\$130,833,102 45	\$30,791,146 66	\$161,624,249 11

The production of gold and silver in the United States for the last two years is esti-

mated by the Director of the Mint to be as follows:

STATE OR TERRITORY.	FISCAL YEAR 1880.			FISCAL YEAR 1881.		
	Gold.	Silver.	Total.	Gold.	Silver.	Total.
Alaska.....	\$6,000	.....	\$6,000	\$7,000	.....	\$7,000
Arizona.....	400,000	\$2,000,000	2,400,000	770,000	\$7,800,000	8,570,000
California.....	17,500,000	1,100,000	18,600,000	19,000,000	870,000	19,870,000
Colorado.....	3,200,000	17,000,000	20,200,000	3,400,000	15,000,000	18,400,000
Dakota.....	3,600,000	70,000	3,670,000	4,500,000	60,000	4,560,000
Georgia.....	120,000	.....	120,000	150,000	.....	150,000
Idaho.....	1,980,000	450,000	2,430,000	1,930,000	1,100,000	3,030,000
Montana.....	2,400,000	2,500,000	4,900,000	2,500,000	2,300,000	4,800,000
Nevada.....	4,800,000	10,900,000	15,700,000	2,700,000	8,860,000	11,560,000
New Mexico.....	130,000	425,000	555,000	120,000	270,000	390,000
North Carolina.....	95,000	.....	95,000	75,000	.....	75,000
Oregon.....	1,090,000	15,000	1,105,000	1,000,000	80,000	1,080,000
South Carolina.....	15,000	.....	15,000	18,000	.....	18,000
Tennessee.....	.....	.....	.....	2,000	.....	2,000
Utah.....	210,000	4,740,000	4,950,000	200,000	5,710,000	5,910,000
Virginia.....	10,000	.....	10,000	11,000	.....	11,000
Washington.....	410,000	.....	410,000	100,000	.....	100,000
Wyoming.....	20,000	.....	20,000	7,000	.....	7,000
Other.....	14,000	.....	14,000	10,000	50,000	60,000
Total.....	\$36,000,000	\$39,200,000	\$75,200,000	\$36,500,000	\$42,100,000	\$78,600,000

The total coinage of the several mints during the year has been as follows :

DENOMINATION.	Pieces.	Value.
GOLD.		
Double-eagles.....	887,456	\$17,749,120 00
Eagles.....	2,171,516	21,715,160 00
Half-eagles.....	4,566,353	22,831,765 00
Three dollars.....	1,036	3,103 00
Quarter-eagles.....	2,996	7,490 00
Dollars.....	1,636	1,636 00
Total gold.....	7,630,093	62,308,279 00
SILVER.		
Dollars.....	27,397,355	27,397,355 00
Half-dollars.....	9,755	4,877 50
Quarter-dollars.....	14,955	3,738 75
Dimes.....	37,355	3,735 50
Total silver.....	27,459,420	27,409,706 75
MINOR.		
Five cents.....	19,955	997 75
Three cents.....	24,955	743 65
One cent.....	38,964,955	389,649 55
Total minor.....	39,009,865	391,395 95
Total coinage.....	74,100,278	\$90,109,381 70

Proof trade dollars, 1,987.

The number of national banks in the country appears to be increasing, eighty-six having been organized during the year ending November, 1881, with an aggregate authorized capital of \$9,651,050, and circulation of \$5,233,580—the largest number of banks organized in any one year since 1872. Meanwhile there were discontinued twenty-six banks, with a capital of \$2,020,000 and circulation of \$1,245,530, making the total number in operation October 1 last 2,132, the greatest number of banks that have ever been in operation at any one time. Since the organization of the national-bank system, three hundred and forty banks have gone into voluntary liquidation, and eighty-six have been placed in the hands of receivers to close up their affairs. It is estimated by the Comptroller of the Currency, from whose reports most of the information concerning national banks is necessarily obtained, that the losses to creditors from the failures of national banks during the eighteen years since the passage of the National Bank Act, has been about \$6,240,000, an annual average of about \$346,000. As these corporations have had an average capital of about \$450,000,000 and deposits averaging \$800,000,000, the percentage of loss on money employed is remarkably small.

The resources and liabilities of the national banks on October 1, 1881, are stated as follows:

RESOURCES.

Loans and discounts.....	\$1,169,022,303
Over-drafts.....	4,773,780
Bonds for circulation.....	363,335,500
Bonds for deposits.....	15,540,000
United States bonds on hand.....	40,972,450
Other stocks and bonds.....	61,896,703
Due from reserve agents.....	132,963,183
Due from other national banks.....	73,505,446
Due from other banks and bankers...	19,306,827
Real estate, furniture, and fixtures...	47,329,111
Current expenses.....	6,731,936
Premiums.....	4,138,586

Brought forward.....	\$1,944,520,825
Checks and other cash items.....	14,581,879
Exchanges for clearing-house.....	189,222,256
Bills of other national banks.....	17,732,712
Fractional currency.....	373,946
Specie.....	114,334,736
Legal-tender notes.....	53,153,441
United States certificates of deposit..	6,740,000
Five per cent redemption fund.....	16,115,752
Due from United States Treasurer....	1,356,844

Total..... \$2,358,387,391

LIABILITIES.

Capital stock.....	\$463,821,985
Surplus fund.....	128,140,618
Undivided profits.....	56,372,191
National-bank notes outstanding.....	320,199,969
State-bank notes outstanding.....	245,013
Dividends unpaid.....	2,835,927
Individual deposits.....	1,070,997,531
United States deposits.....	8,476,690
Deposits of U. S. disbursing officers..	3,631,303
Due to national banks.....	205,862,946
Due to other banks and bankers.....	89,047,471
Notes and bills rediscounted.....	3,091,165
Bills payable.....	4,664,077

Total..... \$2,358,387,391

Under the provisions of the National Bank Act of February 25, 1863, every national banking association organized thereunder was to have succession by the name designated in its articles of association and for the period limited therein, not, however, exceeding twenty years from the passage of the act. The act of June 3, 1864, provided that each association should have succession for a period of twenty years from its organization. Under these acts the corporate existence of the bank first organized expired on January 1, 1882, and that of the second will expire on April 11th following. From the last-named date to February 25, 1883, the corporate existence will terminate of 393 banks, having a capital of \$91,985,950 and a circulation \$67,855,910. The corporate existence of 1,080 banks organized under the act of June 3, 1864, will cease between 1884 and 1890, mainly in the first two years of that period. While further legislation is deemed desirable to authorize these banks to renew their charters, it does not appear to be necessary. The Comptroller says:

If, for any reason, the legislation herein proposed shall not be favorably considered by Congress, the banks can still, under the present laws, renew their existence if they so desire; and in the absence of prohibitory legislation many of them undoubtedly will, on the expiration of their present charters, organize new associations with nearly the same stockholders as before, and will then apply for and obtain from the Comptroller certificates authorizing them to continue business for twenty years from the respective dates of their new organization certificates. Such a course of procedure will be perfectly legal, and, indeed, under the existing laws, the Comptroller has no discretionary power in the matter, but must necessarily sanction the organization or reorganization of such associations as shall have conformed in all respects to the legal requirements.

The passage, however, of a general act directly authorizing an extension of the corporate existence of associations whose charters are about to expire would, in many instances, relieve the banks from embarrassment. As the law now stands, if the shareholders of an association are all agreed, the process of reorganization is simple; but if any of the shareholders object to such reorganization, they are entitled to a complete

liquidation of the bank's affairs, and to a *pro rata* distribution of all its assets, including its surplus fund. In many instances executors and administrators of estates hold national-bank stock in trust; and while they might prefer to retain their interests in the associations which issued the stock, they would perhaps have no authority to subscribe for stock in the new organizations. While, therefore, the legislation asked for is not absolutely essential, yet its passage at an early day would be a great convenience to many of the national banks, and especially so to the class last referred to.

During the year 1879, on \$456,968,504 of capital, the national banks have paid in taxes to the United States \$7,016,131; to the several States, \$7,603,232—a total of \$14,619,363, or \$3.20 on each \$100 of capital. During the same period the banks declared dividends on their capital stock of 5.5 per cent, and in and for the year ending September 1, 1881, dividends of 9.2 per cent..

For the six months ending May 31, 1881, the State banks, savings-banks, and private bankers report a capital of \$24,502,719, deposits in the amount of \$96,360,426, on both of which a tax was paid of \$202,844.80, or at a rate per annum of only about 3.2 cents per hundred dollars on both capital and deposits. The earnings of these banks are of course not known.

On October 1, 1881, the national banks, excepting those in the reserve cities, held against deposits of \$507,247,143, a reserve of \$158,299,042, or 31.21 per cent, although the law required a reserve of only 15 per cent. In the reserve cities, exclusive of New York, against deposits of \$325,669,226, the banks held reserves amounting to \$109,805,507, or 30.03 per cent. In New York city the deposits were \$268,769,373, against which there was a reserve of only \$62,542,546, or 23.27 per cent. In these cities the law requires a reserve of 25 per cent of the amount of the deposits, and though, at the date mentioned, unusually heavy demands are made upon the banks for money to be used in payment for cotton, grain, and provisions, among the producers in the West and South, the banks kept their reserve largely in excess of the amount required by law, except in New York city, where it was temporarily reduced below the limit, but not enough to create any distrust in monetary circles.

During the last fiscal year the value of our foreign commerce has largely increased, both in exports and of merchandise and specie, the exports of merchandise reaching the unprecedented amount of \$902,377,346, an increase over that of the previous year of \$66,738,688, and considerably in excess of that of any previous year. The value of the imports of merchandise during the same period amounted to \$642,664,628.

The specie value of the exports of the country has increased within the last ten years about \$455,000,000, made up largely from the increase in certain products and manufactures, as will be seen by the following table, comparing the value of exports on those articles for 1871 and 1881:

COMMODITIES.	Value of exports during the year ended June 30—		Increase.
	1871.	1881.	
	Dollars.	Dollars.	Dollars.
Bread and breadstuffs.....	79,381,187	270,332,519	190,951,332
Provisions and tallow.....	41,870,254	158,328,896	116,458,642
Cotton and manufact. of...	221,885,245	261,267,133	39,381,888
Animals, living.....	1,019,604	16,412,398	15,392,794
Leather and manufact. of..	1,897,395	8,088,445	6,191,050
Wood and manufact. of...	12,916,542	18,600,312	5,683,770
Total increase in the exports of the above articles.....			374,059,476

The following table will show the value of imports and exports of merchandise with each of the principal foreign countries and their dependencies, over the year ended June 30, 1881:

COUNTRIES.	Exports.	Imports.
	Dollars.	Dollars.
United Kingdom (England, Scotland, and Ireland).....	481,135,078	174,493,738
France.....	94,197,451	69,806,375
Germany.....	70,188,252	52,989,181
West Indies:		
Cuba and Porto Rico.....	13,128,297	66,868,608
British West Indies.....	8,396,144	6,294,046
Hayti and San Domingo.....	5,276,518	5,642,050
French West Indies.....	1,555,621	2,464,577
Dutch West Indies.....	940,418	2,584,376
Danish West Indies.....	738,691	359,900
Total.....	30,030,689	84,218,552
British North American Provinces...	39,512,876	38,041,947
Brazil.....	9,252,415	52,732,536
Belgium.....	36,826,331	12,603,435
China, including Hong-Kong.....	8,864,534	24,717,557
Netherlands.....	26,352,507	5,802,306
East Indies:		
British East Indies.....	858,069	18,012,206
Dutch East Indies.....	1,728,786	7,249,811
Portuguese East Indies.....		51,610
Total.....	2,586,855	25,313,627
Italy.....	9,018,875	11,613,937
Mexico.....	11,171,238	8,317,802
Russia.....	16,025,884	2,837,153
Spain.....	12,554,547	5,933,995
Japan.....	1,468,976	14,217,600
United States of Colombia.....	5,838,188	5,991,890
Venezuela.....	2,768,604	6,601,817
Spanish possessions, except Cuba and Porto Rico.....	62,863	9,159,423
British Possessions in Australasia....	6,728,505	2,038,302
Hawaiian Islands.....	2,778,072	5,533,000
Argentine Republic.....	2,427,863	5,660,240
Denmark.....	6,392,539	402,979
Uruguay.....	1,612,612	4,164,663
Central American states and British Honduras.....	2,111,697	3,602,906
Portugal.....	4,291,266	753,202
Guianas:		
British Guiana.....	1,723,447	2,424,074
Dutch Guiana.....	249,534	402,519
French Guiana.....	65,868	3,103
Total.....	2,038,849	2,829,696
Sweden and Norway.....	3,406,296	947,896
British possessions in Africa and adjacent islands.....	2,470,592	1,696,334
Austria.....	2,255,412	1,413,611
Turkey.....	1,499,399	1,532,307
Chili.....	1,614,836	1,435,970
Gibraltar.....	2,881,742	17,416
All other countries and ports, not elsewhere specified.....	3,466,553	4,997,185
Total.....	902,377,346	642,664,628

Included in the amount of exports is an amount of \$18,451,399, foreign merchandise, which is exported after having been entered in this country, and retained in store for a longer or shorter period; the remainder, \$883,925,-947, is domestic merchandise.

FLORIDA. The vote of the State in the last presidential election was 51,618: for the Garfield electors, 23,654; for the Hancock electors, 27,964; majority for Hancock, 4,310. The Legislature, consisting of 22 Republicans and 85 Democrats in both branches, convened on the 4th of January and adjourned on the 4th of March. On the 18th of January Charles W. Jones was re-elected United States Senator. Among the laws enacted at this session are the following:

An act to prevent illegal voting in the State.

An act to suppress gaming.

An act to provide for the assessment and collection of taxes upon improvements on the public lands, and for the protection of occupying claimants of said lands.

An act to enable a married woman to dispose of her separate property by last will and testament.

An act to incorporate the Live Oak and Rowland's Bluff Railroad Company.

An act to prevent the selling as butter of oleomargarine, or any spurious preparation purporting to be butter.

An act relating to the arrest of fugitives from justice from other States.

An act to repeal and dissolve municipal corporations under certain circumstances, and to provide the manner in which such cities may become reincorporated.

An act for the better protection of passengers on railroad-cars, and the employes of railroad companies.

An act to make the public use of indecent or obscene language a misdemeanor, and provide for the punishment thereof.

An act relating to landlords' lien, for what, and upon what it exists.

An act to incorporate the Carrabelle and Thomasville Railroad Company.

An act relating to the intermarriage of white persons with persons of color.

An act for the benefit of sheep-raisers, and for the protection of sheep and other stock against dogs.

An act to encourage the planting of oysters in the waters of this State, and to protect the rights of owners thereof.

An act to prevent the selling, hiring, bartering, lending, or giving to minors under sixteen years of age, or to any person of unsound mind, certain fire-arms or other dangerous weapons.

An act to dissolve municipal corporations under circumstances therein stated, and to provide governments for the same.

An act to incorporate the Orange Ridge, DeLand and Atlantic Railroad Company.

An act to confirm the organization of the

Jacksonville, St. Augustine and Halifax River Railway Company, and to grant certain ferry privileges and lands to said company.

An act to amend sections 2, 3, and 4 of an act entitled "An act to incorporate the St. John's and Lake Eustis Railway Company," approved February 20, 1879.

An act to provide for calling out the organized and enrolled militia of this State to aid the civil authorities.

An act to incorporate a company, and to facilitate the construction and equipment of a railroad from Green Cove Springs, upon the St. John's River, in Clay County, to the town or village of Melrose, in Alachua County, under the style of the Green Cove Springs and Melrose Railroad Company.

An act to grant certain lands to the East Florida Railway Company.

An act to prohibit the sale of intoxicating liquors within two miles of any camp-ground used for religious worship in this State.

An act to prevent the improper living together of certain persons.

An act to reapportion the congressional districts of this State.

An act to amend the first section of chapter 3138, Laws of Florida, entitled "An act prescribing a uniform rate of fare upon railroads," approved March 11, 1879.

An act to designate the holidays to be observed in the acceptance and payment of bills of exchange, bank-checks, and promissory notes.

An act to incorporate the Pensacola and Atlantic Railroad Company, and to grant certain lands to the same.

An act to authorize the appointment of a committee to investigate the issue of the bonds of 1873, and the origin and disposition of the same.

An act to enlarge the equity jurisdiction of the circuit courts.

An act to encourage the construction of canals between the Matanzas and Halifax Rivers, and between the Mosquito and Indian Rivers, commonly known as the Haulover.

An act to enable settlers on State lands to obtain titles thereto.

An act to incorporate the Palatka and Indian River Railway Company.

An act to authorize the trustees of the Internal Improvement Fund of the State of Florida to protect the interest of the said fund by becoming a bidder and purchaser of the railroads from Lake City to Quincy, and the branch to Monticello, and from Tallahassee to St. Marks, should the same be sold, as provided in the seventh clause of the decree in the case of J. Fred Schutte and others, complainants, *vs.* the Jacksonville, Pensacola and Mobile Railroad Company and others, defendants, rendered in the Circuit Court of the United States, Fifth Judicial Circuit, Northern District of Florida, by the Hon. Joseph P. Bradley, Circuit Justice, and filed the 31st of May, 1879, and for other purposes.

An act to prevent the careless use of firearms on the public highways.

An act to prohibit the fishing for shad during certain periods of time herein specified.

An act to amend chapter 3147 of the acts of 1879, entitled "An act to protect the food-fishes of the State and to regulate fisheries," approved March 11, 1879.

An act to provide for the appointment of boards of health for incorporated cities and towns in this State containing 300 or more registered voters.

An act to incorporate the Tropical Peninsular Railroad Company.

An act to incorporate the Florida Midland and Georgia Railroad Company, and to grant certain lands to the same.

An act to incorporate the Blue Spring, Orange Ridge, and Atlantic Railroad Company.

An act to incorporate the Monticello and Georgia Railroad Company.

An act to incorporate the Okeehunkee and Panasofkee Railroad Company.

An act to incorporate the Atlantic and Gulf Coast Canal and Okechobee Land Company.

The following are the essential portions of the act for the dissolution of municipal corporations:

SECTION 1. That, whenever any city or town in this State incorporated under the act for the incorporation of cities and towns, approved the 4th day of February, A. D. 1869, is indebted to the amount of one hundred thousand dollars, the interest of which has remained unpaid for five years or longer, the charter of such city or town shall be and the same is hereby declared to be repealed, and the incorporation thereof dissolved, which dissolution shall take effect on the proclamation of the Governor of the State, to be made as hereinafter provided. . . .

SEC. 3. . . . *Provided, however,* That the officers of such dissolved corporation shall continue to be the custodians of the books, records, papers, money, evidences of debt, and property of every nature and description, both real and personal, of such corporation, and shall continue to exercise the functions of their respective offices, so far as may be necessary to preserve the peace and good order of such city or town, until the establishment of another government and the appointment and qualification of officers under it, to whom it shall be the duty of the officers of such defunct corporation to transfer and deliver promptly, on demand, all books, records, papers, evidences of debt, money, and property of every nature and description, both real and personal. . . .

SEC. 5. That at any time after the first publication of the Governor's proclamation, as provided for in section 3 of this act, on the petition of twenty or more persons residing within the limits of any city or town in this State, the charter of which has been repealed and the incorporation dissolved under this act, it shall be the duty of the Governor, with the advice and consent of the Senate, to appoint a mayor and five aldermen, residents of such city or town, who shall exercise the powers and functions hereinafter provided, and shall hold their office for two years, and until their successors are appointed and qualified.

SEC. 6. That all such cities and towns for which a mayor and aldermen shall be appointed, as provided for in section 5, are hereby declared to be provisional municipalities, the boundaries of which shall be co-extensive with the boundaries of such defunct cities and towns. And the said mayor and aldermen, and such officers as may be appointed by them, and the inhabitants within the limits of such cities and towns,

shall be vested with all the powers and authority, rights and privileges, and charged with all the duties which are conferred on the mayor and aldermen and other officers and the inhabitants, under and by virtue of the said act to provide for the incorporation of cities and towns, approved 4th February, A. D. 1869, chapter 1688, and the amendments thereto, except as hereinafter provided, and as may be inconsistent with this act.

SEC. 9. That the mayor and aldermen shall be authorized to compromise and settle the existing indebtedness of such defunct corporations upon the best terms obtainable, and which they may approve, having regard to the amount of such indebtedness and the means and the ability of the inhabitants and property-holders of such city or town, and for this purpose they are authorized to issue bonds bearing an annual interest of not more than four per cent for the first five years, and not more than six per cent for any subsequent period, the said bonds to mature in twenty-five years, which bonds shall be used for no other purpose than the settlement of said existing indebtedness.

SEC. 12. That, out of the amount of taxes now authorized by law to be assessed by the cities and towns, at least one half of one per cent shall be annually appropriated to the extinguishment of the said indebtedness and the interest on the same, or such substituted obligations as shall be given therefor.

Another law, with similar provisions, including substituted bonds at not more than seven per cent interest, enacted—

That the charters of all cities and towns incorporated or that shall hereafter be incorporated under any of the laws of this State, which have a bonded indebtedness, such bonds being past due and unpaid, and for which a fund for their payment has not been provided, shall be and the same are hereby declared to be repealed and dissolved, such dissolution to take effect on the proclamation of the Governor of the State, to be made as hereinafter provided.

This law was subsequently declared by the Supreme Court to be unconstitutional.

The act to enable settlers on State lands to obtain titles thereto is as follows:

SECTION 1. That from and after the passage of this act, actual settlers on any of the public lands belonging to this State subject to entry may and are hereby permitted to enter the lands on which they reside or have in cultivation, not to exceed one hundred and sixty acres, to be taken in a compact form according to legal subdivisions, at the prices now or hereafter established for such lands, by paying one third of the purchase-money at the time of making entry, one third of the same within two years thereafter, and the remaining one third in three years after the date of entry.

SEC. 2. The person applying for the benefit of the preceding section shall make affidavit before some officer authorized to administer oaths that such application is made for his or her exclusive use and benefit, and that his or her entry is made for the purpose of actual settlement or cultivation, and not either directly or indirectly for the benefit of any other person, and that the lands applied for do not embrace the residence, cultivated lands, or improvements of any other person, and shall prove by the affidavits of two credible witnesses that he or she is residing upon the land applied for or has a part of the same in actual cultivation.

SEC. 3. No person shall be entitled to make more than one entry under the provisions of this act.

SEC. 4. In case of a failure to pay any of the installments upon any entry made under the provisions of this act for ninety days after the same shall become due, the entry shall become null and void, and that portion of the purchase-money already paid shall be forfeited.

SEC. 5. All persons entering lands under the provisions of this act shall be assessed for and pay taxes on the land so entered, from and after the date of entry and first payment thereon, and a failure to pay the taxes assessed thereon shall cause a forfeiture of all the benefits of this act and the part of the purchase-money paid in.

The Governor vetoed a bill providing that—the seat of government be changed from Tallahassee, in Leon County, to Gainesville, in Alachua County, or such other place in this State which a majority of the registered voters of the State shall select: *Provided*, that the removal of the seat of government and the erection of the Capitol building shall be accomplished without cost to the State.

A committee appointed to investigate certain charges of official misconduct against Chief Justice E. M. Randall made a report, exonerating him, which was adopted.

The act to regulate the practice of medicine

provides for the appointment by the Governor of six boards of medical examiners, to be located respectively at Tallahassee, Jacksonville, Pensacola, Key West, Ocala, and Tampa, whose duty it is to examine candidates for practice, not graduates in medicine, and issue certificates to those found competent.

The joint committee of the Senate and Assembly appointed to go to Jacksonville to obtain information regarding the indebtedness of the Internal Improvement Fund, reported the following statement of the amount of coupons of bonds of the railroad companies guaranteed by the trustees of the Internal Improvement Fund, which have been filed in court and verified as reported by A. Doggett, Special Master, with interest on the coupons from maturity, the payments made thereon, and the balance now due:

RAILROAD COMPANY.	Amount of coupons.	Interest on coupons.	Total principal and interest.	Payments made.	Balance due.
Florida.....	\$300,615 00	\$227,664 77	\$528,279 77	\$75,818 59	\$452,466 18
Florida, Atlantic and Gulf Central..	95,620 00	95,587 88	191,157 88	63,149 46	128,008 42
Pensacola and Georgia.....	130,728 50	94,406 44	225,134 94	28,889 47	201,245 47
Tallahassee.....	19,288 50	15,858 05	35,146 55	8,791 71	26,354 84
Total.....	\$546,252 00	\$433,467 14	\$979,719 14	\$171,644 23	\$808,074 91

After the first of January a remarkable activity in the sale of State lands was manifested. The following are the sales for five months:

INTERNAL IMPROVEMENT AND SWAMP LANDS.

MONTHS.	Acres.	Amount.
January.....	4,374.98	\$4,113 26
February.....	27,602.42	22,977 33
March.....	8,895.32	10,896 38
April.....	33,293.45	20,713 96
May.....	14,897.37	12,458 33
Total.....	90,563.54	\$71,159 26

SCHOOL AND SEMINARY LANDS.

LANDS.	Acres.	Amount.
Total sales.....	6,370.00	\$3,957 00

Since the 1st day of January, 1879, these patents for swamp-lands have been received from the United States:

	Acres.
Patent No. 19, former Tallahassee (now Gainesville) district.....	4,639.80
Patent No. 12, former St. Augustine (now Gainesville) district.....	29,509.75
Patent No. 1, Gainesville district.....	15,761.86
Patent No. 17, former Tampa (now Gainesville) district.....	532,360.34
Patent No. 18, former Tampa (now Gainesville) district.....	313,514.63
Patent No. 19, former Tampa (now Gainesville) district.....	536,995.15
Patent No. 20, former Tampa (now Gainesville) district.....	2,282,667.07
Total.....	3,765,448.65
The quantity previously patented was.....	10,667,016.15
Making total patents received.....	14,442,404.80
The quantity disposed of prior to January 1, 1877, was.....	1,497,272.27
Disposed of since.....	187,457.15
	1,684,729.42
Balance on hand.....	12,757,735.38

A census of the Indians of South Florida was taken a year or two since, giving a total population of 203. This has been augmented by the natural increase, and they may now be set down at 225. The chiefs are always chosen from the family or faction of the "Tigers," it being a tradition among the Indians that if the selection be made from the "Wolves," the "Snakes," or the "North Winds," the administration of the incumbent will be short-lived. A general council is called annually in the green-corn season, when a trial is had of all offenders against the laws. This is also a legislative body, where new laws are enacted and modifications made in those already passed.

A question arising as to the effect of a conviction for petit larceny before a justice of the peace upon the right of suffrage, the Supreme Court decided that, under the Constitution and laws, such conviction disqualified the offender from voting.

Captain H. S. Duval, United States deputy surveyor, returning from an expedition in South Florida, reports that the country marked as the Everglades, as far as he surveyed, consists of high, rolling lands, covered with a large growth of pine, with here and there large bodies of hammock-land which seemed richer than he had ever before seen in an experience of thirty-one years in surveying in Florida.

He regards the Everglades as partially a myth, though doubtless there is something of the kind, but covering but very little ground, immediately south of the great Okechobee Lake.

For the year ending June 1st, the total value of merchandise transported on the Chattahoochee River, including the Appalachicola and

Flint Rivers, was \$5,787,140, against \$4,398,000 for the previous year, which is a gain of \$1,389,140, or an increase of 31 per cent. In 1879 it was only \$3,760,000. — The river freights aggregate for the year \$265,960, against \$196,800 the year before, a gain of \$69,160, or an increase of 30 per cent. In 1879 the river freights were \$156,558.

The items of appropriation for Florida, as contained in the River and Harbor Bill of the last Congress, are as follows:

Improving Appalachicola Bay, Florida.....	\$10,000
" Appalachicola River.....	1,500
" Tampa Bay, bar, and channel.....	10,000
" Choctawhatchee River.....	10,000
" Entrance to Cumberland Sound.....	100,000
" Escambia River.....	5,000
" St. John's River.....	100,000
" Pease Creek.....	7,000
" Withlacoochee River.....	7,500
" Suwannee River.....	3,000
" Volusia bar.....	5,560
" Pensacola Harbor.....	20,000
Total.....	\$279,500

In addition an appropriation was made for Pensacola Harbor of \$75,000. The River and Harbor Bill also provides for surveys of Dog Island Harbor, harbor of Key West, Crystal River, La Grange Bayou up to Freeport, Manatee River, Crooked River, Indian River at north end, in view of opening a passage into the lagoon one half mile east; also, for a survey and estimate for a canal connecting St. John's River, Matanzas River, and the Indian River, and for opening and deepening channels so as to make steamboat communication to Jupiter Inlet.

The following table from the census reports, based on the crop of 1879, gives the acreage and yield of cotton in this State:

COUNTIES.	Acreage.	Bales.
Alachua.....	14,616	2,519
Baker.....	1,107	215
Bradford.....	5,836	1,094
Brevard.....	6	2
Calhoun.....	721	172
Clay.....	456	96
Columbia.....	13,142	1,992
Duval.....	57	23
Escambia.....	19,464	4,696
Gadsden.....	25	10
Hamilton.....	11,630	1,908
Hernando.....	1,558	468
Hillsborough.....	556	150
Holmes.....	1,137	273
Jackson.....	56,926	6,144
Jefferson.....	37,500	10,366
Lafayette.....	472	107
Leon.....	49,958	9,562
Levy.....	3,665	1,251
Liberty.....	734	197
Madison.....	28,932	7,054
Marion.....	13,305	2,426
Nassau.....	195	53
Orange.....	818	143
Polk.....	431	95
Putnam.....	1,356	347
Santa Rosa.....	17	5
Sumter.....	2,527	419
Suwannee.....	7,288	1,177
Taylor.....	1,991	418
Volusia.....	333	62
Wakulla.....	2,311	561
Walton.....	1,437	332
Washington.....	1,377	602
Total.....	245,595	54,997

According to the census of 1880, Florida produced, of corn, on 360,294 acres, 3,174,234 bushels, an average of 8.81 bushels per acre. This is the lowest average production per acre, Iowa standing at the head, with an average of 41.56 bushels per acre. The yield by counties is given as follows:

COUNTIES.	Acre.	Bushels.
Alachua.....	19,246	221,869
Baker.....	2,338	22,833
Bradford.....	9,511	91,305
Brevard.....	555	6,186
Calhoun.....	1,643	17,303
Clay.....	1,885	16,850
Columbia.....	13,665	172,795
Dade.....	.....	.....
Duval.....	1,939	17,030
Escambia.....	602	6,423
Franklin.....	145	1,761
Gadsden.....	25,753	133,539
Hamilton.....	14,991	110,503
Hernando.....	10,883	146,008
Hillsborough.....	4,968	48,719
Holmes.....	4,273	31,479
Jackson.....	33,780	234,425
Jefferson.....	39,059	350,143
Lafayette.....	3,420	33,420
Leon.....	43,745	345,381
Levy.....	7,250	73,899
Liberty.....	2,202	16,235
Madison.....	33,493	235,281
Manatee.....	2,663	19,663
Marion.....	16,641	186,917
Monroe.....	64	645
Nassau.....	2,559	23,449
Orange.....	2,763	26,727
Polk.....	5,593	52,073
Putnam.....	2,675	29,019
St. John's.....	1,282	13,997
Santa Rosa.....	1,135	9,850
Sumter.....	6,909	63,972
Suwannee.....	12,410	99,855
Taylor.....	5,224	49,051
Volusia.....	1,250	12,672
Wakulla.....	2,871	30,140
Walton.....	6,025	50,275
Washington.....	5,309	47,167

A State Immigration Convention was held, which was well attended, and after discussion adopted the following resolutions:

Whereas, It is the sense of this convention that each county is a constituent part of the whole State, and is profited by the prosperity of all other counties; therefore,

Resolved, That each county can best serve both herself and sister counties by collecting and placing before the public all the facts which will invite labor and capital.

Resolved, That county associations for the collection of data that will furnish truthful information are earnestly invited, and that all counties who have not formed associations are earnestly urged to do so.

Resolved, That we extend a cordial welcome to all foreigners who may come to settle among us, and that the Commissioner of Immigration take measures to disseminate information in regard to the great natural resources of the State among that class of people.

Resolved, That all steamboat and railroad lines entering into and traversing the State of Florida, or any part thereof, be and they are hereby earnestly requested by this convention to pass all immigrants with their household chattels over their respective lines at liberally reduced rates.

Resolved, That this convention considers the importance of a proper display of the various products, woods, minerals, and other evidences of Florida resources at the exposition at Atlanta as one that commands a duty on the part of her citizens to make such arrangements as will secure a display that will truly represent the great resources that we are blessed with,

and of which, by our peculiar situation, we have a monopoly.

Resolved, That a committee of three be appointed by the Chair to frame a suitable address to the citizens of the several counties, recommending that they immediately organize county immigration societies to co-operate with the Bureau of Immigration after the method suggested by the commissioner, and that they urge the immediate preparation by the citizens of each county of a descriptive article of their respective counties, not to exceed 2,100 words, the same to be sent to the office of the Commissioner of Immigration for introduction in a new State pamphlet, to be issued as soon as the data can be received.

Resolved, That it is the sense of this convention that the next Legislature of the State should make an adequate appropriation for immigration purposes.

Resolved, That this convention recommend to the State Bureau of Immigration to have pamphlets descriptive of Florida printed in the different languages of European countries from which the State expects immigration, and that said pamphlets be distributed among the masses of said European countries.

A very important contract for the sale of State lands was entered into during the summer, the purchasers being Hamilton Disston and associates, of Philadelphia, who proceeded to organize the Atlantic and Gulf Coast Canal and Okechobee Land Company, with a capital of \$10,000,000 in 1,000,000 shares. The contract was for the sale of 4,000,000 acres for the sum of \$1,000,000, deeds to be delivered and payment made in installments. These lands lie south of Ocala and largely east of the Kissimmee River, being chiefly in the counties of Orange, Sumter, Volusia, Marion, Hillsborough, Hernando, Polk, Manatee, and Monroe. The sale of this land had the effect of releasing from incumbrances the public domain which had been set apart for internal improvements. The remainder of this, 8,000,000 or 9,000,000 acres, will be applied to the development of the internal resources of the State. The company propose to drain the Okechobee Swamp, and to dig a canal from the St. John's River to Lake Worth. One half of the reclaimed land is to belong to the State. The company intends to colonize the lands as soon as reclaimed. It is expected that about 12,000,000 acres will be reclaimed. A company was also formed by Mr. Disston to construct a ship-canal across the State. The route will be by the way of the Coloosahatchee River, Lake Okechobee, and thence to the Atlantic Ocean, at or near the mouth of the St. Lucia River. The capital is \$30,000,000. The Fernandina and Jacksonville Railroad was completed during the year, as was also the Waycross road from Jacksonville to Forest City. Three projected lines will run through the Disston purchase. They are the South Florida Railroad, the Jacksonville, Tampa and Key West Railroad, and the Peninsular Railroad.

Near the end of the year the Disston company sold half of its 4,000,000 acres to English and Dutch capitalists, represented by Sir Edward Reed and Dr. Wertheim. This party obtained control of the Transit Railroad and its branches, including the Peninsular Railroad and its branches. By this transaction, they

completed a railroad combination involving the union of the Florida Central, the Jacksonville, Pensacola and Mobile, the Transit and Peninsular, four roads with numerous branches, under one management, backed by abundant capital for development.

This combination includes 484 miles of completed railroad and 144 miles of proposed extension, making a total future scope of 628 miles. The following units make up this total:

The Florida Transit from Fernandina to Cedar Keys, 155 miles, Jacksonville Branch, 21 miles; the Peninsular Road completed for 50 miles to Ocala, with a two-mile branch to Silver Springs, and a projected extension (under the name of the Tropical Railroad of Florida) which has 15 miles completed beyond Ocala, 35 graded, and which will, when completed to Tampa or Charlotte Harbor, include 210 miles. Next, the Florida Central from Jacksonville to Lake City, 59 miles; the Jacksonville, Pensacola and Mobile, from Lake City to Chattahoochee, through Tallahassee, 157 miles, with a four-mile branch to Monticello, and a branch road to St. Marks of 21 miles. There is also a prospective branch from the Tropical Railroad to Brooksville of 8 miles, and a Tampa Branch of 20 miles.

The population of the State by counties, with white and colored distinguished, as returned by the census of 1880, is as follows:

COUNTIES.	Total.	White.	Colored.*
The State....	266,566	141,249	125,317
Alachua.....	16,462	6,444	10,018
Baker.....	2,308	1,660	648
Bradford.....	6,112	4,822	1,290
Brevard.....	1,478	1,381	97
Calhoun.....	1,579	1,188	396
Clay.....	2,838	2,265	573
Columbia.....	9,589	4,820	4,769
Dade.....	194	190	4
Duval.....	17,344	7,689	9,655
Escambia.....	12,157	6,852	5,305
Franklin.....	1,791	1,199	592
Gadsden.....	12,169	4,112	8,057
Hamilton.....	6,790	4,472	2,318
Hernando.....	4,248	3,819	929
Hillsborough.....	5,814	4,908	911
Holmes.....	2,170	2,043	127
Jackson.....	14,872	5,632	8,740
Jefferson.....	16,065	3,897	12,668
Lafayette.....	2,440	2,267	173
Leon.....	19,600	2,817	16,843
Levy.....	5,767	3,732	2,035
Liberty.....	1,362	814	548
Madison.....	14,798	5,608	9,190
Manatee.....	8,655	3,517	138
Marion.....	18,046	4,741	8,305
Monroe.....	10,867	7,659	3,208
Nassau.....	6,635	3,075	3,560
Orange.....	6,618	5,595	1,023
Polk.....	3,158	3,038	120
Putnam.....	5,476	3,257	2,219
St. John's.....	4,535	3,170	1,365
Santa Rosa.....	6,645	4,772	1,873
Sumter.....	4,686	3,501	1,185
Suwannee.....	7,162	4,022	3,140
Taylor.....	2,279	2,114	165
Volusia.....	3,294	2,756	538
Wakulla.....	2,723	1,563	1,160
Walton.....	4,201	3,682	519
Washington.....	4,089	3,171	918

* Including, in the State, 18 Chinese, 37 Indians and half-breeds; in Brevard County, 15 Indians; in Duval County, 1 Chinese; in Holmes County, 12 Indians and half-breeds; in Madison County, 1 Indian; in Monroe County, 12 Chinese

By the census returns, the estimated amount of merchantable pine—long-leaved pine (*Pinus australis*)—standing May 31, 1880, was as follows:

COUNTIES.	No. of feet, board-measure.	COUNTIES.	No. of feet, board-measure.
Alachua.....	525,000,000	Madison.....	122,000,000
Baker.....	144,000,000	Manatee.....	200,000,000
Bradford.....	183,000,000	Marion.....	315,000,000
Brevard.....	63,000,000	Nassau.....	104,000,000
Calhoun.....	81,000,000	Orange.....	87,000,000
Clay.....	77,000,000	Polk.....	210,000,000
Columbia.....	455,000,000	Putnam.....	121,000,000
Duval.....	67,000,000	St. John's.....	66,000,000
Escambia.....	90,000,000	Santa Rosa.....	213,000,000
Hamilton.....	311,000,000	Sumter.....	103,000,000
Hernando.....	142,000,000	Suwannee.....	622,000,000
Hillsborough.....	162,000,000	Taylor.....	213,000,000
Holmes.....	150,000,000	Volusia.....	59,000,000
Jackson.....	233,000,000	Wakulla.....	72,000,000
Jefferson.....	23,000,000	Walton.....	409,000,000
Lafayette.....	425,000,000	Washington.....	187,000,000
Levy.....	346,000,000		
Liberty.....	75,000,000	Total.....	6,615,000,000

Cut for the census year ending May 31, 1881 (excluding 77,500,000 feet, estimated, grown in Alabama, and sawed in Western Florida)..... 203,054,000

In this estimate no account is made of timber remaining on lands which have been cut over, or of that injured by the manufacture of turpentine.

The months of January and February were marked by exceptionally cold periods, and much damage was done to orange-groves and tropical plants. It was estimated that there would be shipped from the State this year not less than 75,000,000 if not 80,000,000 oranges, and that the yield would exceed this amount by 5,000,000. The yield in eight counties in Eastern Florida and Sumter County would not be less than 40,000,000, while Western and Southern Florida would produce 30,000,000 more.

Judge A. A. Knight, supervisor of the census for Florida, to whom was also assigned the duty of preparing the orange statistics of the State, furnishes the following figures:

COUNTIES.	Bearing trees.	Yield.	Value.
Alachua.....	13,111	2,250,000	\$33,750
Baker.....	21	9,450	142
Bradford.....	3,377	893,850	4,815
Brevard.....	10,834	1,250,000	18,750
Calhoun.....	841	282,400	4,170
Clay.....	738	165,700	2,522
Columbia.....	436	157,850	2,741
Dade.....	500	500,000	7,500
Duval.....	10,131	3,000,000	45,000
Hernando.....	7,635	2,500,000	37,500
Hillsborough.....	18,638	4,400,150	45,410
Lafayette.....	1,157	43,800	662
Levy.....	1,460	500,000	7,500
Madison.....	594	512,900	7,685
Manatee.....	17,291	2,000,000	30,000
Marion.....	46,195	6,000,000	90,000
Monroe.....	500	500,000	7,500
Orange.....	23,049	4,000,000	60,000
Polk.....	2,233	1,500,000	22,500
Putnam.....	64,170	7,120,631	108,415
St. John's.....	12,006	2,000,000	30,000
Sumter.....	13,029	2,250,000	33,750
Suwannee.....	157	120,700	2,060
Taylor.....	1,846	255,200	2,747
Volusia.....	24,633	4,000,000	60,000
Supplemental figures ...	11,536	451,225	7,056
Total.....	292,324	46,097,856	\$672,175

and 2 Indians; in Nassau County, 3 Chinese and 6 Indians; in St. John's County, 2 Chinese; in Volusia County, 1 Indian.

No returns were received from fourteen of the thirty-nine counties. With the exception of Nassau, the counties not reporting are situated in Middle and West Florida. The oranges were valued at \$15 a thousand, and the average yield per tree was 154. Within the next five years, the number of bearing trees and their yield will probably be increased five-fold.

FOGG, GEORGE GILMAN, born at Meredith, New Hampshire, May 26, 1813; died at Concord, N. H., October 12, 1881. Having received from his parents, who were in humble circumstances, a good preparation for college, he entered Dartmouth, from which institution he graduated in 1839. Mr. Fogg then read law with Hon. Warren Lovel and Stephen Carr, of Meredith, and commenced practice, at Gilman-ton, in 1842. At an early age he engaged actively in politics, and entered the career which subsequently conducted him to a position of eminent distinction among the public men of New Hampshire. Originally a Democrat, he became one of the most influential workers in the organization known as Independent Democrats. In January, 1845, the Texas question caused the withdrawal of John P. Hale from the Democratic party. The next month an organization was effected, at Exeter, by malcontent Democrats, who refused to consent to Mr. Hale's rejection on account of his antislavery views. This new party took the name of Independent Democrats, nominated Mr. Hale for Congress, published an address and resolutions, and boldly appealed for support to their brethren throughout the State. At the election in the month following the Democrats chose three of their four candidates for Congress on a general ticket, but failed to elect the nominee in place of Mr. Hale. A special election was ordered to fill the vacancy, and, pending the canvass, the supporters of Mr. Hale established an organ at Manchester, which was called "The Independent Democrat." Soon after, the paper was removed to Concord, and Mr. Fogg, having been a contributor to the same, was made its editor. He then abandoned his profession, removed to Concord, and became a regular journalist, and continued such until 1861, when he was appointed Minister to Switzerland by President Lincoln. As a newspaper writer Mr. Fogg exerted a strong influence in and out of his own State. His intimate knowledge of the Democratic party gave him a vast advantage in the faction to which he had allied himself, and enabled him to contend successfully with the experienced politicians arrayed against it. In 1845 several unsuccessful attempts were made to fill the congressional vacancy. At the State election in March, 1846, the Independents succeeded in choosing to the Legislature a sufficient number of Representatives and Senators to hold the balance of power between the two old parties, and also, having a candidate of their own in the field for Governor, to defeat the Democratic nominee for that office.

At the legislative session in June, a compromise was effected between the Whigs and Independents, by which Anthony Colby, of New London, the candidate of the former, was elected Governor; Mr. Fogg, Secretary of State; and John P. Hale, United States Senator for six years. At the election in March, 1847, the Democrats chose two of the four Representatives to the Thirtieth Congress. In July, at a special election, Amos Tuck, of Exeter, formerly a Democrat, and James Wilson, of Keene, who had left the Whig party, were triumphant over their Democratic competitors. The combination to elect Tuck and Wilson to Congress completed, in New Hampshire, the work of forming a new party, which had begun when Mr. Hale was chosen to the Senate in 1846. This coalition was, in fact, the Republican party, first in the field in New Hampshire, and nine years before like combinations in other States assembled in convention in Philadelphia in 1856.

In November, 1855, the subject of this sketch was appointed Reporter of the Supreme Court, and held this office until his resignation in June, 1859. He was a prominent member of the convention that nominated Abraham Lincoln for President, and was Secretary of the National Executive Committee which conducted the first campaign with that candidate. Mr. Lincoln offered Mr. Fogg the position of Commissioner of Patents, which was not accepted; and afterward, in 1861, he received the appointment of Minister to Switzerland. From this mission he was recalled in 1865, and, in his letter to Secretary Seward, dated Berne, June 22, 1865, he complained that he was allowed only five weeks in which to vacate that important place, without having been previously notified of his intended removal. After his return from Europe, he resumed his residence in Concord; and in August, 1866, was appointed by Governor Smythe to fill the vacancy in the United States Senate caused by the resignation of Hon. Daniel Clark, of Manchester, who had been appointed United States Judge. The later years of Mr. Fogg were clouded by some disappointments, among which was his failure to retain the place of leading editor to "The Independent Democrat," after that journal formed a coalition with the Concord "Daily Monitor." From this time he withdrew from politics, and became a quiet supporter of Republican candidates, not always voting his party ticket in full. Mr. Fogg was actively connected with the New Hampshire Historical Society, was a trustee of Bates College, and in his religious belief a Unitarian.

FORNEY, JOHN W., born in Lancaster, Pennsylvania, September 30, 1817; died in Philadelphia, December 9, 1881. At the time of his death Colonel Forney was editor of the "Progress," in Philadelphia. At an early age he gave evidence of talents that made him one of the most distinguished journalists and poli-

ticians of the United States. He began life as a shop-boy in a village store, but, being ambitious, gave up that work and found employment in the printing-office of the Lancaster "Journal." He applied himself easily to type-setting, and by his great industry and good behavior secured the confidence and esteem of his employer. In his twentieth year he was able to purchase the Lancaster "Intelligencer," a strong Democratic paper, and such was his success that in 1840 he bought the "Journal," united it with his former purchase, and published both under the title of "Intelligencer and Journal." Lancaster County was then the stronghold of the Whig party, and Mr. Forney acquired a wide-spread reputation for the ability and consistency with which he advocated Democratic principles. In 1845 President Polk appointed him Deputy Surveyor of the Port of Philadelphia. He disposed of his paper, removed to that city, and commenced the duties of his office. Soon after his arrival he bought a half share in the old "Pennsylvanian," then the leading Democratic organ of the State. His connection with this paper lasted till 1853. Two years previous to that date he was elected Clerk to the House of Representatives, and removed to Washington. For a long time he was presiding officer of the House, and officiated during the exciting struggle for the election of Speaker in 1855 and 1856. When the contest was ended, a resolution was unanimously carried, thanking Mr. Forney for the ability and impartiality with which he had presided over the deliberations of the House. He subsequently became one of the editors of the Washington "Union," and held the position until 1856. When James Buchanan was nominated for President, Mr. Forney was immediately elected chairman of the Democratic State Central Committee of Pennsylvania, and by his energy and talent contributed greatly to the election of President Buchanan. In January, 1857, Mr. Forney was a candidate for the United States Senate. Although very popular in his native State, and receiving the support of not only many of the newspapers, but of the President himself, who wrote a letter to a personal friend in the Legislature in which he said, "When asked, I have always said that I preferred Mr. Forney, and I should esteem it a friendly act toward myself for any person in or out of the Legislature to support him"; and in spite of his obtaining a large majority in the caucus nomination on the first ballot, Mr. Forney by various means was defeated. After his defeat he returned to Philadelphia, and retired for a time into private life.

In August, 1857, he began the publication of the "Press," an independent Democratic newspaper in Philadelphia. Having exhausted his funds in the political campaign, he purchased the type on credit, and having no machine, the paper was printed for months in the office of the "Sunday Dispatch." The "Press"

extended a cordial support to Mr. Buchanan's Administration up to the time of the adoption of the Lecompton Constitution, and the effort to secure the admission of Kansas into the Union under it. Mr. Forney resolutely opposed that measure, which caused a disruption of the friendly relations which had previously existed between the President and himself. The result of the struggle now forms a part of the political history of the period. Few men in the country contributed more than Mr. Forney to strengthen the Republican party, and to prepare it for the contest of 1860. In December, 1859, he was for the second time elected Clerk of the House of Representatives, and soon after started a Sunday paper in Washington called the "Sunday Morning Chronicle." This venture was successful, and was published as a daily.

In 1861 he was elected Secretary of the United States Senate. Abraham Lincoln, Charles Sumner, and Schuyler Colfax were his warm supporters. For six years he discharged the duties of that position with distinction. He was one of the most fervent and influential supporters of the Administration. On the death of Lincoln, Mr. Forney supported Andrew Johnson for a short time, but, when the "Press" declared editorially against him, Mr. Forney was one of the foremost in the struggle which resulted in his impeachment.

In March, 1871, Mr. Forney became Collector of the Port of Philadelphia, having some time before resigned the secretaryship of the Senate. During the one year he held the office he earned the gratitude of many merchants by converting from a dead letter into a living reality the system of direct transportation of imports in bond without appraisement and examination at the port of original entry. This achievement, it has been claimed, laid the foundation for the rapid increase in foreign trade which has marked the history of Philadelphia during the last few years. As one of the chief promoters of the Centennial Exposition, he visited Europe as a commissioner, and was instrumental in bringing about its success. He advocated the opening of the permanent exhibition every day of the week, and contended for Sunday cars and universal suffrage. On his return from Europe, Mr. Forney sold the "Press" for \$180,000. In his editorial farewell to his staff he said: "The 'Press' was the outgrowth of my best impulses. It was twenty years old on the 1st of August, 1877. I have done my best to make it a good, honest newspaper. It has lived through many tempests and changes. It has received and returned many blows. Its opinions have been its convictions. It has often given offense in the championship of a cause or a principle. But I can say for myself that in all this long course of time I have never deliberately wounded or injured a human being, even in the fiercest struggles of political or sectional difference; and I hope I may be permitted to

add that in more than fourteen years of official responsibility, with millions of public money to hold and disburse, not a dollar has been misapplied or devoted to my personal use. I recur to these recollections with pride, now that my connection is about to close with the newspaper which I founded. My experience with the 'Press' has been one of uninterrupted satisfaction. I have never been truly happy away from my editorial desk. Office and honors have all been nothing to the substantial pleasures of my journalistic work." Of late years he devoted much time and attention to his newspaper, the "Progress," and confidently anticipated a great success in the enterprise.

FOSSIL BIRDS. The first discovery of any trace of a fossil bird of an earlier geological period, was the observation of the impression of a feather in a slate-rock at Solenhofen. It was described by H. von Meyer in 1861, under the specific name *lithographica*, but subsequently received the name *Archæopteryx macrura*. An imperfect specimen of the same species was described by Owen, and a complete fossil, discovered in 1875, by Carl Vogt. This was of the size of a pigeon. The small head, of nearly flat, pyramidal form, was of the true reptilian type in the configuration of its bones. The neck, the thorax, the ribs, the shoulder-girdle, the fore-limb, and the tail were all formed like those of reptiles. In the upper jaw two small, sharp, conical teeth were discerned. The *remiges* of the wings were fixed to the ulnar edge of the arm and to the hand, and were covered for half their length with down. The hind-foot was that of a bird. Birds' feathers covered the tibia for its whole length. The main part of the body was naked. Structurally the *Archæopteryx macrura* was more closely allied to reptiles than to birds, but with wings, feathers, and birds' feet it possessed the most marked avian characteristics, and can therefore be classed neither among the reptiles nor the birds. Professor Huxley proposes the name *Sauropsids* for a single great section of vertebrates, including both reptiles and birds.

The two specimens of the genus *Archæopteryx* found in Europe were imbedded in Jurassic strata. Their structural features as well as their stratigraphical position mark them as belonging to an earlier age than the fossil birds afterward found in the cretaceous deposits of the eastern slope of the Rocky Mountains, which are described below. In the cretaceous formations of England a few specimens of avian fossils have been found, but only fragments of bones, which afford no nearer indications of the forms which they represent than that they are the bones of birds.

Not long after the first transitional form, linking these two great divisions of vertebrates, was discovered in Europe, an entire series of toothed birds and flying reptiles was brought to light in the uninhabited West of the United

States. The scientific exploration of these wide regions, which has been promoted by the rational policy of the Government at Washington, has revealed more important forms of extinct life, and enriched the sciences of paleontology and comparative biology with more valuable data in recent years than the discoveries in all other lands together. Of these discoveries, the group of toothed birds classified by Professor O. C. Marsh, which he has ranged in a sub-class, giving to this the name *Odontornithes*, is perhaps of higher scientific value than all the rest, not excepting the hipparion, through which the Darwinians have traced the ancestry of the horse, and which has furnished them with an effective argument in support of the development theory. In the same geological horizon in which the *Odontornithes* were discovered a great number of pterodactyls, or flying reptiles, were found. All these belong to a new order, the chief characteristic of which helps to bridge the gap between birds and reptiles in an important particular, and one complementary to the missing link afforded in the leading mark of the *Odontornithes*. This is the absence of teeth, on account of which peculiarity the name *Pteranodontia* was bestowed upon the order. The affinity is traced further back in a group of wingless reptiles of an earlier period, which are likewise toothless. They are called the *Sauranodontia*, and are allied to the ichthyosaurus. The *Pteranodontia* were gigantic animals, some of them having a spread of wings measuring twenty-five feet.

In the course of his ten years' researches before the publication of his monograph on the *Odontornithes*, which forms vol. vii of the publications of the "Survey of the Fortieth Parallel," and the first of the "Memoirs of the Peabody Museum of Yale College," and is the opening volume of a work which will embody all his investigations of the extinct *Vertebrata* of North America, Professor Marsh had distinguished twenty species and eight genera of toothed birds. Over a hundred specimens of this type of animals were found. These are preserved in the Peabody Museum of Natural History at New Haven. Many of them are remarkably complete; but some of the species are represented by very fragmentary remains. The first discoveries of these fossil birds were made in 1870 by Professor Marsh, who revisited the field the following season and the next, afterward delegating the exploratory work to others.

The eight genera and twenty species described in Professor Marsh's monograph are as follows:

Apatornis celer,	Icthyornis lentus,
Baptornis advenus,	" tener,
Graculavus velox,	" validus,
" pumilus,	" victor,
Hesperornis regalis,	Laornis Edwardsianus,
" crassipes,	Palaeotringa littoralis,
" gracilis,	" vagans,
Icthyornis dispar,	" vetus,
" agilis,	Telmatornis priscus,
" auceps,	" affinis.

The remains hitherto discovered in America of these strange forms of the Mesozoic age belong to the Cretaceous period. Earlier types will probably be found in the Jurassic deposits, and possibly still lower down. The three-toed foot-prints in the Triassic beds of the Connecticut Valley, which attracted much attention a few years ago as presumably the tracks of birds, are now almost unanimously ascribed to the dinosaurian reptiles whose bones are found in the same deposits. Remains of birds have been found on the Atlantic coast in the cretaceous rocks, notably in the greensands of New Jersey. These fossils consist only of separate bones, which do not allow of being strictly classified. The specimens from the West are many of them nearly complete skeletons, which cast a flood of light upon the origin of the bird type. They were exhumed from the cretaceous strata of the plains of Kansas and Colorado, which consist for the main part of fine yellow chalk and calcareous shale, marine deposits undisturbed by upheavals, in which the numerous fossils of the reptile age which they contain are preserved in an almost perfect condition. The geological horizon of the *Odontornithes* thus far discovered is within the Middle Cretaceous. The strata in which they have been found, named by Marsh the Pteranodon beds, contain besides these species abundant remains of Mosasauroid reptiles, Plesiosaurs resembling the *Pliosaurus* type, the Pteranodons or toothless Pterodactyls, and multitudinous fishes.

The Mesozoic birds divide themselves into two distinct and widely divergent types; but, as they both possess teeth, they are included in the new sub-class of *Odontornithes*. One type, represented by the genus *Hesperornis*, is that of large, wingless, aquatic birds, some of them of enormous size, whose teeth were fixed in grooves. The other group, of which the genus *Icthyornis* may be taken as the typical representatives, are small birds with large wings and remarkably light and hollow bones, whose flying powers must therefore have been enormous. Their teeth were fastened in sockets, and their vertebræ were biconcave.

Marsh has found a fossil bird in the Jurassic *Atlantosaurus* beds of Wyoming, the oldest representative of the class except, perhaps, the *Archæopteryx*. The name given to the species is *Laopteryx priscus*. The specimen consists of a portion of the skull, which indicates a bird larger than the blue heron. The bones of the skull are pneumatic. In general character it resembles the *Ratitæ*. The bird probably possessed biconcave vertebræ, and was furnished with teeth, as one was found in the matrix similar to those of the *Icthyornis*.

FRANCE (RÉPUBLIQUE FRANÇAISE). By the terms of the present Constitution, voted by the National Assembly in 1871, and bearing date February 25, 1875, the legislative power is vested in an Assembly of two Houses—the Chamber of Deputies and the Senate; and the

executive power in a chief magistrate called President of the Republic. The deputies are elected, for the term of four years, by universal suffrage, under the *scrutin d'arrondissement* adopted by the National Assembly on November 11, 1875, each *arrondissement* returning one deputy; and, if its population be over 100,000, an additional deputy for each 100,000 or fraction thereof. At the general election of 1878 the *électeurs politiques* (persons having a right to vote) numbered 9,992,329. Citizenship and twenty-one years of age are the only requisites to be an elector. The number of deputies in 1881 was 557. The Senate is composed of 300 members; 75 hold their seats for life, vacancies being filled by the choice of the Senate; and 225 are elective, one third of their number retiring every three years. Twenty-five years of age and citizenship are the only requisites to be a deputy, and forty years of age and citizenship to be a senator. Both the senators and the deputies receive pay for their services, at a fixed rate per diem. In the budget for 1880 the expenses of the Senate were estimated at 3,865,600 francs, and those of the Chamber of Deputies at 6,521,000. Both bodies assemble on the second Tuesday in January of each year unless previously convoked by the President of the Republic, and must remain in session at least five months out of the twelve. The President can adjourn the Chambers, but not more than twice in one session, nor for a longer period than one month at a time. The Senate possesses conjointly with the Chamber of Deputies the right of initiating and framing laws; but financial laws must first be presented to and voted by the deputies. For all practical purposes the four years' existence of the Chamber is a single session, with mere adjournments. A dissolution alone annuls all bills pending in it. The Senate, however, is never dissolved, and bills are now taken up by it one session at the stage they had reached in the previous one. Indeed, a year has repeatedly intervened between the passing of a bill in one House and its passing in the other. A measure which became a law on November 15, 1881, abolishing the last vestige of ecclesiastical control over cemeteries, deserves notice as having been the first to profit by this continuity of parliamentary proceedings. Introduced by a private deputy during the session previous, and adopted by the Chamber, it was sent up to the Senate, but too late for discussion before the prorogation. When, in 1877, the Senate had for the first time to decide how pending bills were affected by a dissolution of the Lower House, and with the option of making a *tabula rasa*, of taking up bills at the pre-dissolution stage and passing them without sending them back to the Chamber if unamended, or of passing them and sending them down to the Chamber like measures initiated in the Senate, its decision was that bills introduced into the Chamber by private

deputies should be expunged, and Government bills alone proceeded with. In 1881, however, the Senate resolved, under the inspiration of its president, M. Léon Say, to place all pre-dissolution bills on an equal footing. The President of the Republic, elected for a term of seven years by a majority of votes by the Senate and Chamber of Deputies united in National Assembly, may be re-elected; has the initiative of legislation concurrently with the two Houses; promulgates the laws voted by both Houses; disposes of the armed force of the nation, and appoints all civil and military functionaries, including the members of the Cabinet; but every act of the President must be countersigned by a minister. He may, with the assent of the Senate, dissolve the Chamber of Deputies before the expiration of its legal term; but the electoral colleges must in such event be convened for new elections within three months. Pursuant to a special article appended to the Constitution of 1875, and dated July 16th of that year, the President can not declare war without the previous assent of both Houses. In case of a vacancy by death or any other cause, the Senate and Chamber of Deputies must immediately proceed to the election of a new President. The President of the Republic is responsible only in case of high treason; but the Cabinet is responsible to the Senate and Chamber of Deputies for the general policy of the Government, and the ministers individually for their personal acts.

The President of the Republic is M. Jules Grévy, elected January 30, 1879; and the Cabinet, at the end of 1881, was composed of the following ministers: Foreign Affairs, M. Léon Gambetta, President of the Council; Interior, M. Waldeck-Rousseau; Finance, M. Alain-Targé; Justice, M. Cazot; Commerce and the Colonies, M. Rouvier; Public Instruction and Worship, M. Paul Bert; Public Works, M. Raynal; War, General Camponon; Marine, M. Gougeard; Agriculture, M. Devès; Fine Arts, M. Proust; Posts and Telegraphs, M. Cochery.

In this new ministry, dating from November 14, 1881, is to be observed the severance of the Department of Worship from the Interior, and its reattachment to Public Instruction, from which it used to be temporarily disjoined when the latter portfolio was held by a Protestant. By the change, M. Paul Bert, who, in his memorable lecture in September last, affirmed that nations receded from religion in proportion as they advanced in morality, was the man appointed to transact business with the Catholic prelates. The clerical press evinced irritation at the appointment of M. Bert. One paper declared it scandalous and insolent; some republican journals likewise demurred to it; one paper noted that Worship was "handed to a man who has hitherto treated it as a pamphleteer rather than as a statesman"; while another styled it an act both of "bad policy and bad taste"; and the clerical

organs uttered comments on the foreign ex- traction of both the Minister and the Under- Secretary of Foreign Affairs, the former being the son of a Genocse, and the latter (M. Spul- ler) of a Baden immigrant. The motives as- signed (in the decrees) for the creation of the two new portfolios of Agriculture and Fine Arts, formerly coupled respectively with Com- merce and Public Instruction, were as follows: That agriculture is the chief element of national wealth; that the Minister of Commerce is suffi- ciently occupied with international exchanges, customs, and commercial treaties; that Ger- many, America, Austria, and Italy have made agriculture a distinct department; that foreign competition, bad harvests, and the phylloxera have placed French agriculture in a critical condition; and, as regards art, that nations, but lately imitators of France, have (as proved by the last exhibition) become her rivals in the influence of art-training on producing forces, and in the importance of strengthening technical education. The Minister of Agricult- ure was to have charge of surveys and subsi- dies for irrigation, drainage, dredging canals, water-supply, and agricultural improvements; the Minister of Arts, of public buildings, cathe- drals, art and technical schools, and drawing classes.

France, with an area of 528,572 square kilo- metres (204,081 square miles), is divided into 87 departments, and had, according to the cen- sus of 1876, a population of 36,905,788.

The movement of population from 1869 to 1878 was as follows:

YEARS.	Births. Exclusive of still-births.	Deaths.	Surplus of births (B.) or deaths (D.).
1869	943,526	864,320	B. 84,206
1870	944,115	1,046,909	D. 103,894
1871	826,121	1,271,010	D. 444,815
1872	966,000	793,064	B. 172,936
1873	946,364	844,588	B. 101,776
1874	954,652	781,709	B. 172,943
1875	950,975	845,062	B. 105,913
1876	966,682	834,074	B. 132,608
1877	944,576	801,956	B. 142,620
1878	937,317	839,076	B. 98,241
1879	936,529	839,882	B. 96,647

The number of still-births, 39,778 in 1863, had in 1879 reached 43,875.

The relation of marriages to the total popu- lation from 1871 to 1877 was as follows:

YEARS.	Total population.	Marriages.	Number of marriages to 100 inhabitants.
1871.....	36,544,067	262,476	0.72
1872.....	36,102,921	352,754	0.98
1873.....	36,260,928	321,238	0.89
1874.....	36,383,481	303,113	0.83
1875.....	36,542,910	300,427	0.82
1876.....	36,905,788	291,393	0.79
1877.....	36,977,098	278,094	0.75
1878.....	37,119,720	279,650	0.76

The number of marriages registered in 1879 was 282,776.

By the terms of the law of July 29, 1881, the budget estimates for 1882 were as follows:

REVENUE.		France.
Direct taxes		399,994,100
Stamps and registration duties.....		712,227,500
Product of the forests.....		88,558,600
Customs and salt.....		331,558,000
Indirect contributions.....		1,033,743,000
Posts and telegraphs		140,699,700
Surplus of the budgets of 1877, 1878, and 1879...		50,616,000
Three per cent tax on personal property.....		40,435,000
Universities		3,485,906
Receipts from prisoners' labor		7,887,155
Revenue of Algeria.....		26,990,100
Tax on civil pensions		20,664,000
Miscellaneous receipts.....		49,376,162
Total (ordinary) revenue.....		2,856,535,223
EXPENDITURES.		France.
Public debt and dotations		1,235,339,577
Ministry of Justice.....		35,572,992
“ of Foreign Affairs.....		13,753,300
“ of the Interior and of Worship.....		139,699,106
“ of Finance.....		19,561,992
“ of Posts and Telegraphs.....		1,995,860
“ of War.....		571,398,898
“ of Marine and the Colonies.....		197,043,497
“ of Public Instruction and Fine Arts...		114,353,941
“ of Agriculture and Commerce.....		33,131,904
“ of Public Works.....		131,933,731
Total (ordinary) expenditures.....		2,854,232,905
Expenditures extraordinary.....		461,136,000
Grand total.....		3,315,368,905

The total public debt amounted, on January 1, 1879, to a nominal capital of 19,862,035,983 francs, the interest on which, or *rente*, was 748,404,952 francs. The nominal capital of each of the four classes of *rente*, the interest or amount of *rente*, and the number of *inscrip- tions* or individual holders thereof at the date just referred to, were as follows:

CLASS, or description of <i>rente</i> .	Nominal capital.	Interest, or amount of <i>rente</i> .	Number of holders of <i>rente</i> .
	Francs.	Francs.	
3 per cent.....	12,101,352,167	363,040,565	1,788,114
4 per cent.....	11,152,400	446,096	786
4½ per cent.....	832,061,176	27,442,779	159,459
5 per cent.....	6,917,472,240	345,873,512	2,432,574
Totals.....	19,862,035,983	748,404,952	4,330,933

The following table shows, from official re- turns, the number of holders and the amount of *rente*, at decennial periods, from 1798 to 1870, and in each of the later years therein expressed:

YEARS : January 1.	Number of holders of <i>rente</i> .	Amount of annual <i>rente</i> .
		Francs.
1798.....	24,791	25,111,785
1810.....	145,663	56,730,583
1820.....	199,697	172,734,833
1830.....	195,370	204,696,459
1840.....	265,447	195,911,137
1850.....	846,330	229,608,758
1860.....	1,073,801	338,356,589
1870.....	1,254,040	358,087,510
1871.....	1,269,739	336,222,343
1872.....	2,147,130	502,126,256
1876.....	3,473,475	626,120,206
1878.....	4,130,040	690,013,493
1879.....	4,380,938	748,404,952

The interest and other expenses connected with the national debt were given as follows in the budget for 1882:

Consolidated debt.....	743,026,239 francs.
Redeemable capital.....	840,432,278 "
Annuities and life-interests....	151,881,060 "

Total outlay on account of the debt, 1,235,339,577 francs.

On January 1, 1873, the new army law of July 27, 1872, went into operation. Its first article enacts universal liability to military service. Every Frenchman capable of bearing arms must serve for twenty years, namely, five years in the standing army, four years in the reserve of the standing army, five years in the territorial army, and six years in the reserve of the territorial army.

By a law of July 24, 1873, on the reorganization of the army, France is divided into eighteen districts, each of which is occupied by an army corps. One army corps is also organized in Algeria. Each of the eighteen army corps consists of two divisions of infantry, one brigade of cavalry, one brigade of artillery, one battalion of engineers, one squadron of the train, a general staff and the subordinate staffs. By a law of March 16, 1880, the former general staff, which was a closed corps consisting of 513 officers, has been dissolved, and has been replaced by a new staff which is accessible to all officers who, after completing the course of studies in the military school, have obtained the staff brevet on the ground of their final examination. In this examination all captains may take part, even if they have not passed through the school. Moreover, officers of the staff may receive the brevet under special conditions fixed upon by the Minister of War. The Minister of War selects among the brevetted officers those who are to enter into the service of the general staff. In time of peace they remain in this service for four years, after which they return to their former position. They can not be recalled to the general staff until two years later. While serving in the general staff, their names remain on the lists of their own branch of the army, but they are kept there

"*hors cadre*." The brevetted officers who are not called into the service of the general staff form a reserve. The new general staff consists of 300 officers and 150 archivists. Outside of this *cadre* a land-surveying commission has been established in connection with the war depot, consisting of twelve officers.

The actual strength of the army on a peace footing in 1881 was 498,497 men, of whom 52,750 were in Algeria, while about 39,000 were absent on leave and in hospitals. Here follows the latest published classification by arms:

Infantry	283,163
Cavalry.....	68,907
Artillery.....	68,762
Engineers.....	11,007
Train.....	9,540
Administrative troops..	27,990
Gendarmerie.....	26,511
Total.....	495,880

The total number of recruits in 1879 was 316,662, of whom 34,857 were rejected. Of the total number, 46,636 were unable to read and write, 9,931 were able to read only, 64,409 could read and write, 181,680 had an elementary education, 5,851 held degrees and diplomas, and of 9,155 the degree of instruction was unknown.

The navy, on January 1, 1881, comprised 356 vessels. Of these, 59 were ironclads (32 large war-vessels and 27 for coast defense); 235 steamers (57 cruisers, 39 dispatch-boats, 47 gunboats, 61 transports, and 31 torpedo-boats); and 63 sailing-vessels.

The foreign trade of France is officially divided into "*commerce général*," which comprises the entire imports and exports, including goods in transit, and "*commerce spécial*," which embraces the imports consumed and the exports produced within the country. The following table exhibits the movements of French commerce from 1859 to 1880 (value expressed in francs):

YEARS.	GENERAL COMMERCE.		SPECIAL COMMERCE.		GOLD AND PRECIOUS METALS.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
1850.....	5,579,800,000	4,269,600,000	4,907,500,000	3,400,600,000	296,000,000	475,000,000
1859.....	5,008,900,000	4,111,700,000	4,594,800,000	3,163,100,000	339,200,000	424,500,000
1875.....	4,570,000,000	4,371,000,000	4,461,000,000	3,369,800,000	546,000,000	189,600,000
1877.....	4,908,800,000	4,547,500,000	3,669,800,000	3,436,300,000	683,100,000	141,200,000
1876.....	4,461,800,000	4,807,000,000	3,988,400,000	3,575,600,000	804,000,000	234,000,000
1875.....	4,422,500,000	4,702,100,000	3,536,600,000	3,872,600,000	228,000,000	219,000,000
1874.....	4,576,100,000	4,822,300,000	3,507,700,000	3,701,100,000	952,000,000	159,000,000
1873.....	4,107,000,000	4,061,300,000	3,554,800,000	3,757,300,000	565,000,000	492,000,000
1869-1873.....	3,513,800,000	3,988,800,000	3,342,500,000	3,259,700,000	462,000,000	871,000,000
1861-1868.....	2,846,600,000	3,088,200,000	2,858,700,000	2,961,800,000	789,000,000	451,000,000
1850-1863.....	2,846,600,000	3,088,200,000	2,121,100,000	2,271,000,000	607,000,000	513,000,000

France produced 680,316 gallons (U. S. wine measure) of wine in 1879, against 2,217,600,000 in 1875. The mean price per gallon from 1862 to 1867 inclusive was 36 cents, and the percentage of taxation upon the value, 14.55. The wine exported from France in 1879 was of the total value of \$45,917,000; and that imported, \$21,074,400. More than 4½ per cent of the area of France is vineyard, occupying 7,000,000 persons. Yet the wine consumed in

and exported from France is not all of French growth: 1,400,000 acres of vineyard had, up to 1881, been devastated by the phylloxera, and foreign wines are imported in ever-increasing quantities (nearly 15,700,000 gallons in 1880), mostly from Spain, Portugal, and Italy. The champagne exported to the United States in 1880 was of the value of \$2,317,593.

The chief sources of the imports and destinations of the exports in 1880 were as follows:

COUNTRIES.	Imports.	Exports.
	Francs.	Francs.
Great Britain	599,000,000	830,200,000
Belgium	415,000,000	429,400,000
Italy	357,800,000	180,400,000
Germany	418,000,000	343,500,000
Switzerland	103,200,000	246,500,000
Spain	182,800,000	149,600,000
Russia	843,000,000	34,200,000
Sweden, Norway, and Denmark	116,900,000	16,000,000
Netherlands	42,400,000	44,700,000
Portugal	7,000,000	18,800,000
Austro-Hungary	90,500,000	21,300,000
Turkey	155,400,000	59,200,000
Greece	16,700,000	16,600,000
Totals Europe.....	2,842,700,000	2,386,000,000
United States	715,900,000	276,200,000
Argentine Republic	134,600,000	73,100,000
Brazil	55,100,000	70,900,000
Peru	51,500,000	13,500,000
Uruguay	32,300,000	21,200,000
Chili	21,600,000	11,700,000
Mexico	7,500,000	13,800,000
Other countries	79,800,000	81,600,000
Totals America.....	1,098,300,000	562,000,000
British India	126,200,000	7,100,000
China	95,400,000	8,500,000
Japan	30,600,000	8,800,000
Cochin-China and Siam	3,900,000	4,300,000
Dutch Indies	19,600,000	4,200,000
Totals Asia	275,700,000	27,900,000
Totals Africa.....	188,800,000	54,000,000
Other countries	12,600,000	6,100,000
Totals foreign countries..	4,368,100,000	3,010,900,000
Algeria	122,300,000	139,300,000
Senegal	12,700,000	6,200,000
Martinique	24,000,000	13,700,000
Guadeloupe	19,009,000	12,000,000
St. Pierre and Miquelon	23,100,000	5,500,000
Réunion	17,900,000	7,400,000
French Guiana	300,000	5,100,000
French possessions in India..	5,100,000	800,000
Other possessions	2,700,000	400,000
Totals colonies.....	227,100,000	190,400,000
Total foreign commerce..	4,595,200,000	3,231,300,000

The principal articles of import and export in 1880 were as follows (in francs):

CLASSES.	Imports.	Exports.
Articles of food	2,153,858,000	809,234,000
Raw materials	1,777,724,000	582,044,000
Manufactured goods	493,965,000	1,663,832,000
Other merchandiso	491,990,000	340,433,000
Total merchandise.....	4,907,547,000	3,400,639,000
Coins and precious metals....	295,759,000	475,073,000
Total	5,203,306,000	3,875,712,000

The port movements of the republic for the year 1880 were as follows:

FLAGS.	ENTERED.		CLEARED.	
	Number of vessels.	Tons.	Number of vessels.	Tons.
French	10,194	3,581,875	8,007	3,159,633
Foreign	26,231	8,386,471	15,117	8,996,573
Total....	36,425	11,968,346	23,124	7,156,211

The merchant navy at the close of 1880 was as follows:

DESCRIPTION OF CRAFT.	Number.	Tons.
Fishing-vessels	9,967	184,983
Coasting-vessels	2,399	111,599
Ocean-vessels	1,743	643,406
Yachts, etc.	929	29,310
Total, 1880.....	15,058	919,298
Total, 1879.....	15,033	932,853

Of the total number in 1880, 14,406 vessels, of 641,539 tons, were sailing-vessels, and 652, of 277,759 tons, were steamers.

The railroads of France are either main lines, which serve the general interest, or local lines. The former belong partly to the state Government, and partly to private companies. The latter will be assumed by the Government at the expiration of their charters. The number of kilometres in operation on January 1, 1881, was as follows:

Main lines	23,977
Local lines	2,189

Total..... 26,166

The number of kilometres in the course of construction, on the same date, was 6,038, of which 2,498 were built by companies, and 3,540 by the Government.

The statistics of telegraphs are as follows:

Length of lines in 1880, kilometres....	65,949
Length of wires in 1880	196,533
Stations in 1880	5,391
Total dispatches in 1880	16,493,897
Revenue	23,029,835 francs.
Expenditure	18,083,040 "

The latest postal statistics were as follows:

Number of post-offices in 1879	5,802
Number of letters sent in 1880	522,402,165
Number of postal-cards	30,119,434
Valuable letters	9,157,692
Newspapers	320,568,422
Samples and printed matter	336,805,348
Total articles sent	1,219,053,561
Receipts in 1879	104,769,735 francs.
Expenditure	76,271,510 "

The senatorial amendments to the Merchants' Shipping Bill having been accepted by the Chamber on January 30, 1881, the bill was promulgated on the following day. Clause four provides that, as compensation for the burdens imposed on ship-building by customs duties, a bounty shall be granted of 60 francs per ton gross on iron ships, of 20 francs on wooden ships of not less than 200 tons, of 10 francs on wooden ships of smaller size, of 40 francs on mixed constructions, and 12 francs per 100 kilogrammes on steam-engines and their accessories. Clause five accords, on vessels enlarged, similar bounties proportionate to the increase of tonnage, as also for steam-power inserted after the completion of the ships, together with a bounty of 8 francs per 100 kilogrammes for new boilers of French build. Clause nine grants a premium on long voyages for ten years, a compensation for the burden imposed on merchant shipping by navy recruiting and service. The premium begins at 1 franc 50 centimes per ton net for every 1,000 miles traversed by vessels of French build, and is reduced by $\frac{1}{4}$ of a centime for wooden or mixed ships, and by $\frac{1}{2}$

centime for iron ships. Vessels of foreign build will have only half this premium, save those already registered as French, which will have the full allowance, and steamers built on a plan previously approved by the Government will have 15 per cent extra. Fishing and pleasure craft and all vessels of subsidized lines are excluded from the premium. In the event of war, merchant-vessels may be called by requisition to the service of the State, and every ship receiving a premium on navigation will be bound to carry mails gratuitously, and a post-office official if required. Foreign ships wholly or partially changing hands are henceforth to pay 3 francs for admission to registration, instead of only 2 francs as before.

The number of authorized savings-banks on December 31, 1878, was 526, with 794 branches; the total number of books out being 3,173,721, representing an aggregate of 1,275,606,395 francs to the credit of depositors.

The area and the population of the French colonies and protected countries, according to the most recent official returns, are shown in the following tabular statement:

COLONIES.	Area of territory in square kilometres.*	Population.
ASIA :		
India : Pondichéry, Chandernagore, Karikal, Mahé, Yanam (1878) +..	509	276,476
French Cochinchina (1878).....	59,408	1,592,202
OCEANIA :		
New Caledonia (1876).....	17,080	41,694
Loyalty Islands (1876).....	2,743	13,174
Marquesas Islands (1876).....	1,274	5,754
Tahiti and dependencies (1876).....	1,179	11,172
Tubai, Varitu, Oparo (1876).....	209	793
Tuamotu Archipelago, with Gambier Islands (1876).....	1,000	5,469
Clipperton Islands (1876).....	5	Uninhab.
AFRICA :		
Algeria (1877).....	430,000	2,867,626
Senegambia and dependencies (1878)	Doubtful	137,905
Gaboon and Gold Coast.....	20,000?	186,133
Réunion (1878).....	1,979	178,310
Mayotte (1878).....	366	9,058
Nossi-Bé and dependencies (1879)...	{ 293	{ 7,185
St. Marie de Madagascar (1879)....		{ 10,967
AMERICA :		
French Guiana (1878).....	121,413	27,299
Guadeloupe, inclusive of St. Barthol- omew (1878).....	1,869	185,460
Martinique (1879).....	987	164,250
St. Pierre and Miquelon (1878).....	235	4,915
Total colonies.....	230,599	2,858,166
PROTECTED COUNTRIES.		
Cambodia (1874).....	83,861	890,000
Tunis.....	116,348	2,100,000
Total countries protected.....	200,209	2,990,000
Grand total.....	860,808	8,715,792

As observed in the foregoing table, Tunis now figures as one of the countries under the protection of France. Notwithstanding the protest of the Sublime Porte, France, after occupying the regency, concluded with Tunis, on May 12, 1881, a treaty comprising the following articles:

* One square kilometre equals 0.386 square mile.
† The population in 1879 was 276,649.

ARTICLE I. The treaties of friendship and commerce existing between France and the regency are confirmed and renewed.

ART. II. With the view to facilitating for the Government of the French Republic the means of guaranteeing the defense of its interests, the Bey's Government accords the Government of the French Republic every facility for assuring the security of the shore and frontiers of the regency by an occupation, the extent and conditions of which will be determined hereafter.

ART. III. This occupation will cease when the Beylic authorities have shown that they can insure the security of the frontiers. The Government of the Republic, on its side, guarantees the Bey's states against all external aggression.

ART. IV. The Government of the French Republic guarantees the execution of existing treaties.

ART. V. The Government of the French Republic is represented at Tunis by a minister resident, who will watch over the execution of the above provisions.

ART. VI. The diplomatic agents of the French Republic at foreign courts will protect Tunisian subjects and defend their interests. In return, the Bey's Government engages not to conclude any international treaty, convention, or act, without first giving notice of it to the Government of the French Republic, and without a previous understanding with it.

ART. VII. The Government of the French Republic and the Bey's Government will arrange the terms of the settlement of the public debt and of the rights of the creditors of the regency. The conditions on which that settlement will be made will be fixed hereafter.

ART. VIII. A war contribution will be paid by the frontier and coast tribes; the amount of the impositions and the mode of recovery will be debated in ulterior negotiations.

ART. IX. In order to protect French interests against the smuggling of arms and ammunition, the Bey's Government engages to prevent all importation of powder and arms.

ART. X. The present treaty will be submitted for the ratification of the President of the French Republic.

Algeria, the most considerable, as it is the most costly, of France's colonial possessions, was under military rule until 1871, but the affairs of the colony are now administered by a civil governor-general, except in the unsettled districts, inhabited for the most part by nomadic tribes. The governor-general is invested with legislative powers in civil affairs, but in all important cases he is advised by a colonial council, established by the home government. The present governor-general is M. Louis Tirman, Councilor of State.

In the French financial estimates for 1882, the revenue of Algeria was set down at 26,990,100 francs, and the expenditure at 29,974,599 francs. The normal monetary status of the colony is a considerable excess of cost over the yield.

The commerce for the year 1879 was of the total value of 391,800,000 francs, of which amount 214,000,000 represented the exports. The values of the exports to and imports from the United States were \$2,128,880 and \$3,562,360 respectively.

In the same year there were 3,013 vessels entered, aggregating 1,127,731 tons; and 3,155 cleared, with a total of 1,154,525 tons. The merchant navy comprised 133 vessels, of an aggregate tonnage of 5,705.

Of railways there were, on January 1, 1881,

1,153 kilometres; and of telegraphs, in 1876, there were 5,588 kilometres, with 9,865 kilometres of wires, including the Algero-Tunisian net-work and the submarine cable. The number of telegraph-offices in 1879 was 163; and that of the dispatches, 803,742.

According to official returns, under date of December 8, 1877, the area and population of Algeria were as follows:

CIVIL DEPARTMENT.

DEPARTMENTS.	Square kilometres.	POPULATION.		
		Males.	Females.	Totals.
Algiers.....	8,263 27	259,229	226,109	485,338
Oran.....	15,355 63	222,527	193,933	416,460
Constantine.....	17,975 65	229,639	185,025	414,714
Totals.....	41,599 55	711,445	605,072	1,316,517

MILITARY DEPARTMENT.

DIVISIONS.	Area in square kilometres.	POPULATION.		
		Domiciled.	Nomads.	Totals.
Algiers.....	118,850 85	13,942	578,327	587,269
Oran.....	135,172 11	9,478	227,233	236,716
Constantine.....	134,377 49	12,894	714,230	727,124
Totals.....	388,400 45	36,314	1,514,795	1,551,109
Totals of Algeria.	430,000	.....	.....	2,367,626

In October, 1880, the area of the civil department had been extended to 738,388 square kilometres, and the population had increased to 1,884,124. The classification by nationalities, for the entire colony, was as follows: 198,092 French; 33,506 naturalized Jews; 94,038 Spaniards; 26,322 Italians; 14,313 English; 6,513 Germans; 2,748 Swiss; 2,663 Turks; 792 Belgians; and 2,477,641 native Mussulmans.

Both Houses, formally opened on January 11th, instead of the 13th (the statutory opening day), adjourned to the 20th, and on that day proceeded to the election of office-bearers. M. Léon Say was re-elected President of the Senate by 170 votes, or 23 more than he had received when originally appointed in May, 1880. M. Gambetta, elected for the third time President of the Chamber, received 262 votes, against 259 in 1880, and 314 in 1879. On the 21st both Presidents delivered their inaugural addresses. That of M. Gambetta elicited warm applause, and, on the motion of a deputy, was ordered to be placarded throughout France. The following extract from his discourse embodies an interesting review of the labors, past and future, of the Chamber:

The session now opened, the crowning one of this Parliament, will enable you, not without effort, to complete the heavy task imposed on you by the country. Much has still to be done, but you have already done a good deal. On the very morrow of the memorable struggle of May to October, 1877, you inaugurated the execution of the resolution of France. You have put an end to the enterprises of personal rule and of the old parties. You have restored in all its reality the government of the country by the country. You have restored Paris to the Parliament, and the

Parliament to Paris. By a grand act of clemency and political sagacity* you have drawn a veil over the remains of our civil discords, and that without incurring any peril to republican order. You have favored the efforts that have been directed to national education laws. After restoring in their integrity the too long disregarded rights and laws of the state, you have insured the education of all French youth. By embodying for the first time in the law an absolute respect for liberty of conscience, you have thoroughly remodeled higher and intermediate education, richly endowed the three branches of public instruction, and thereby prepared a splendid crop of men for the future. Public works have received from you a decisive and unprecedented impulse. The populations who had contributed to the creation of the old railways are at length, by a just reciprocity, about to possess new means of transport and exchange. The fine works which France owes to nature and to the past have assumed from your generous co-operation an extension and power which will enable them, from Dunkirk to Marseilles, to compete effectually with the greatest *entrepôts* in Europe. The roads and the canals, largely subsidized and restored, broadened and constructed, will complete that admirable system of means of communication. Alongside the industrial and economic machinery you have taken a jealous interest in reconstructing and refounding the military and naval machinery of France; you have taken a special interest in the men charged on land and at sea with the custody and employment of that vast machinery. The situation, both in active service and as pensioners, of all the officers and soldiers has been improved; that of the non-commissioned officers has been and is still the subject of your constant solicitude. The staff has been reorganized; it remains for you, by passing the bills laid before you, to recast the recruiting law, organize the military administration, fix the rules of advancement, and the belief is warranted that you will not separate without having given the last touch to the great work of national defense. You have been able to accomplish such a programme, thanks to the wonderful industry and thrift of the country, which for five years has annually yielded you in surpluses the large remissions of taxation by which you have lightened each budget. You have set the budgets in equilibrium, devoted large sums to all the public services, and rendered the credit of France beyond all comparisons. A special law of the greatest moment for the different branches of social economy, the total recasting of our general customs tariff, the postal and telegraphic reform, the fusion of these two services, and a long series of business laws will remain a standing proof of your activity and competency. Lastly, while waiting to place by law public liberties beyond reach of attack, you have favored the exercise of them. You have already secured the right of meeting. The press will shortly be set free by your coming deliberations, and also the legal recognition of professional associations. This you have gone through amid profound peace, both at home and abroad. More especially as regards the maintenance of peace abroad, your harmony with the Government and the country has been unbroken. In spite of assertions reposing on no foundation, the whole world knows that the foreign policy of France neither masks secret objects nor adventures. This is a guarantee which resides in the very form of the republican government, in which all depends on the national sovereignty and on a democracy, in the bosom of which external peace, dignified and well sustained, is at once the means and the object of democratic progress. At home this policy, these reforms, these results, and these hopes will enable you to submit yourselves with confidence to the judgment of the country. Since you began to occupy these seats, several times and in divers ways the nation has had occasion to pronounce itself

* Allusion to the decree of July 11, 1880, granting plenary amnesty to the insurgents of the Commune.

on your acts. It has always afforded them a rigorous sanction, and it is not immediately after the magnificent elections which have just taken place for the municipalities that your entire community of ideas and principles with universal suffrage can be con-tested.

On February 6th the Chamber disposed of the Press Bill, subject to a second reading, provisions punishing seditious crimes, obscure articles or illustrations, defamation and insults to foreign sovereigns or ambassadors having been agreed to. A clause proposing the visitation of insults to the republic with from three to twelve months' imprisonment was, after prolonged discussion, rejected by 287 votes to 187, on the ground that the republic was "strong enough to defy insults." On the 15th the stipulation was agreed to (by 253 votes to 222) that "no foreign journal shall be excluded from France except by decision of a Cabinet council."

On February 7th the Chamber went on with M. Naquet's Divorce Bill, the discussion of which was awaited and followed with intense anxiety and interest. Divorce, expunged from the *code civile* by the religious reaction of 1816, has ever since been replaced in France by an old law restored, allowing only judicial separation (*séparation de corps*). M. Léon Renault, reporter to the committee, vindicated the measure as a revival, not of the law of 1792, which he disapproved, but that of 1803. It restricted divorce, when desired by but one of the consorts, to cases of adultery, maltreatment, or insult, and condemnation to degrading punishments; while divorce by mutual consent was by it subjected to various conditions, such as the acquiescence of the children, the assignment to them of one half the property, etc. As a compromise with traditional scruples, it proposed the indissolubility of the second marriage of divorced persons, and admitted judicial separation as still obtainable. M. Renault urged in behalf of the new measure that divorce, far from favoring heedless marriages, would strengthen tottering unions, while the marriage of the adulterous would be forbidden; and that judicial separations were increasing in France more rapidly than divorces in other countries, the rate of the former being nine per 1,000 marriages, and that of the latter but four per 1,000.

An amendment modifying the system of judicial separation was combated by M. Naquet himself. M. Cazot, Minister of Justice, said that religious considerations were foreign to the debate, and that scrupulous Catholics might still have recourse to *séparation de corps*; that divorce would do away with forced celibacy, diminish the number of illegitimate offspring, and encourage the creation of new families; that the question at issue was whether certain exceptional circumstances ought not to be sacrificed to the preservation of the institution of marriage—the key-stone of social existence; that matrimony was no ordinary contract, but one which, though founded on the free-will of

the parties, when once entered into became indissoluble; and that permanence was what the parties had in view when taking the marriage vow, nor would any one have then thought of divorce but for M. Naquet's project, which, if sanctioned, would determine a marked increase of improvident unions, bearing in them the germs of corruption and dissolution, and discourage tolerance and reciprocal concessions in existing marriages. The clause repealing the law of 1816 was rejected by 261 votes to 225, and the reform of the judicial separation system left as the only possible modification of the present state of things.

The result of the municipal elections in January was favorable to the republicans.

Early in the same month were announced further incursions of Tunisian tribes in Algeria, which the Bey was powerless to prevent; and in April the hostile movements of the Kroumirs against the French troops determined the appropriation of 5,695,000 francs for an expedition, of which General Forgemol was appointed commander. On the 20th M. Roustan, the French Consul-General in Tunis, informed the Bey that he would be held responsible for any effusion of blood that might occur; the Island of Tabarca was occupied by the French troops on the 21st, and on the 25th the military operations commenced against the Kroumirs. The suzerainty of the Porte over Tunis was asserted in a note addressed by the Turkish ambassador to the French Government; and on May 9th a circular was issued by the Minister of Foreign Affairs, declaring that the only object of the Tunisian expedition was to insure the safety of Algeria.

On the 15th M. Jules Ferry announced to the Chamber the "happy diplomatic settlement of the Tunisian question," and expressed the hope that the treaty* concluded with the Bey would be regarded as "securing legitimate interests without exceeding the limits of justice and moderation." Toward the end of the month the operations against the Kroumirs terminated successfully; but the insurrection of the Algerian tribes, one of which was ably commanded by Bou-Amena, seemed to foreshadow further troubles. An additional appropriation of 14,000,000 francs for the Tunisian expedition was asked for by the Minister of War on June 9th, and voted July 9th. On the 19th Marseilles was the scene of a disturbance growing out of a quarrel, with the Italian residents, about the French policy in Tunis.

The defeat of the *scrutin de liste*† bill (rejected June 9th by 148 votes to 114), and, in the August elections, his ill success in his own Belleville constituency, of which, though ill requited, he has ever been the dauntless champion, were grave rebuffs to M. Gambetta,‡ whose supineness and embarrassment as premier after November 14th filled France and the world with surprise.

* For the text of this treaty, see page 309.

† See SCRUTIN DE LISTE, p. 807.

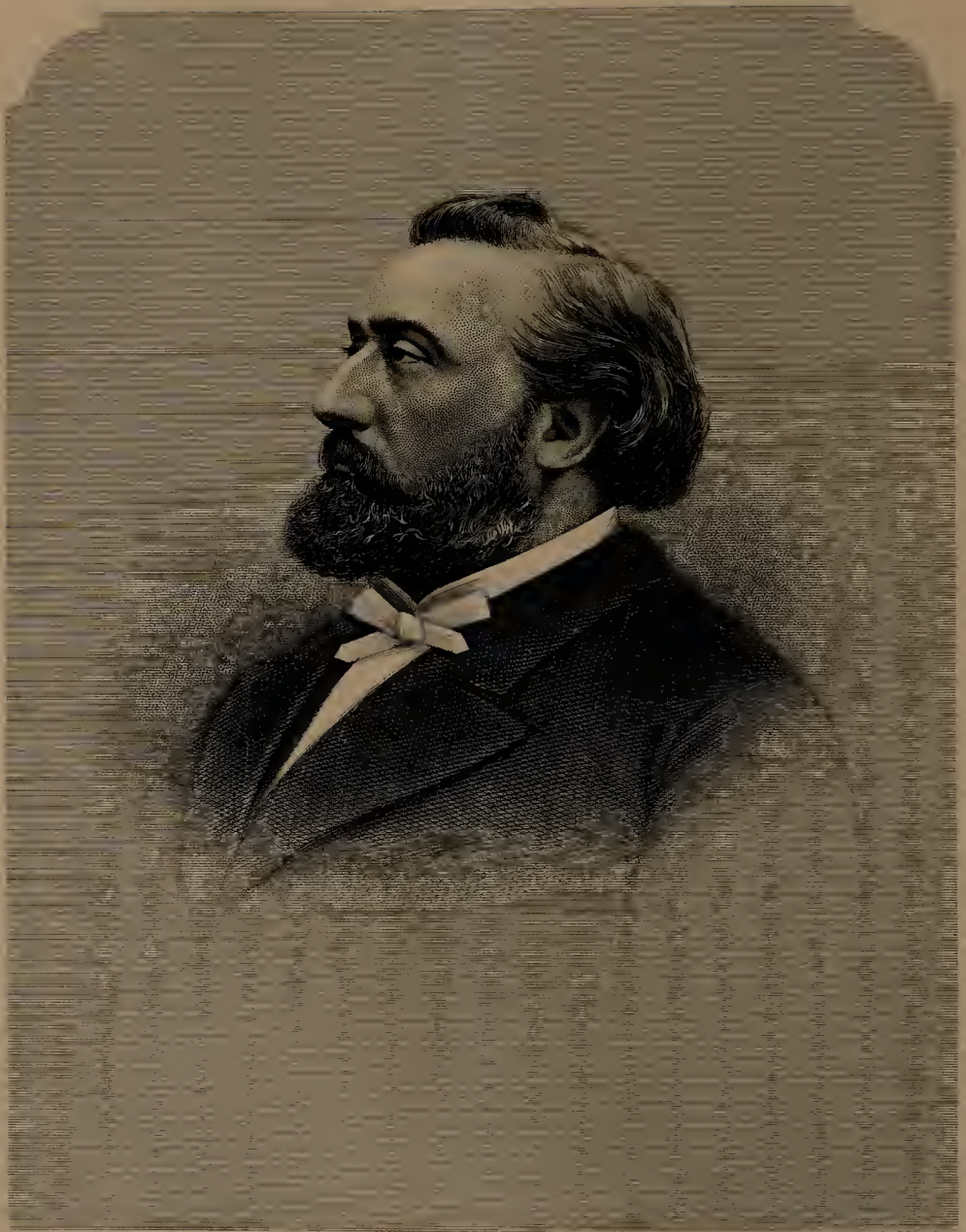
‡ See GAMBETTA, Léon Michel, p. 313.

FRIENDS. The later statistical reports of several yearly meetings of the Society of Friends indicate a small gradual increase of members. The London yearly meeting, which had been declining for fifty years, has within a few years past been receiving accessions; and its reports for 1881 indicated an increase during the year of 106 members, the whole number being 14,981. The reports of the Indiana yearly meeting showed an increase of 1,000 members during the year, and a total of 19,842 members. This increase is not, however, observed in all the yearly meetings, some of which still appear to be falling back or stationary. Thus, the Philadelphia yearly meeting had only 5,650 members in 1881 against 6,000 in 1871, and the New England yearly meeting 4,399 in 1881 against 4,403 in 1871. The mission at Matamoros, Mexico, returned 204 members. Its converts were preaching effectively at several places. A series of school-books published by the mission has gained a large circulation throughout the country.

Among the marked features in the recent history of the Society of Friends are the development of a tendency among individual members to conformity with the usages of other denominations, and to occasional participation in their religious exercises, and the toleration which has been accorded to it in some of the yearly meetings. The singing of hymns has been permitted in Friends' meetings; ministers of the society have preached in the pulpits of other denominations; and an English Friend of sufficient prominence to make his case conspicuous has been baptized without provoking any adverse action from the monthly meeting with which he was connected. A suit which was brought in the State of Indiana for the control of the property of the society, and of a legacy which had been left it, involved the question of the legality of departures of this character. The points wherein the "Progressive" party, who brought the suit, differ from the Orthodox party, or adherents of the old order, were defined in the pleadings as follows: The Progressive party deny that Christians should await the influence of the Holy Spirit in conducting religious services, but claim that they should be governed by fixed purposes, or a sense of duty, in such matters; they deny that men have an inward light, such as the light of Christ, till after conversion; they teach that Christ had a human and a divine nature, and that the divine nature or Godhead died on the cross; that the material bodies of the redeemed will be raised; that it is no longer necessary to continue the peculiar habit, dress, address, and forms of worship of the Friends; they hold protracted meetings by prearrangement, and call publicly on persons to speak, or pray, or relate their Christian experience, ask the unconverted to make confession of their sins, setting seats apart for them, and have singing; their Sunday-schools are formally opened and closed, and vocal and

instrumental music is used in them; they hold that marriage is a civil ordinance, and that ministers may marry persons without reference to the inquiry or consent of the society; that ministers should be regularly assigned to the ministry, and money should be systematically collected for their support; they do not discourage the use of titles of address in connection with the names of persons; and their funerals are conducted with reading from the Scriptures, singing, and a discourse from a special text.

In the case referred to, the plaintiffs held that they represented the original and regular quarterly meeting, and that it was recognized as such by the Western yearly meeting, with which it was connected, and which was in orderly communication, according to the custom of the society, with all the other yearly meetings; therefore they were, according to the Friends' custom, a branch of the society in good standing, notwithstanding their alleged departures from the old usage, and, as such, legitimately entitled to the possession of the property they claimed. The defendants, the plaintiffs maintained, who had separated from the quarterly meeting and from the Western yearly meeting on account of their toleration of departures from ancient Friends' usage, and had formed a new quarterly meeting and a new yearly meeting, were not entitled to be recognized as representatives of regular organizations, notwithstanding their adherence to the ancient usage, because they had not received the recognition which was accorded to the bodies of which the plaintiffs were representative, in correspondence with the other yearly meetings. The court held, in answer to an argument on demurrer in which these allegations were set forth, that the highest church organization must decide whether there has been departure in doctrines, and, until the superior organization has so determined, the civil court can not enter upon an investigation of that question; that no organization can be recognized by the civil courts as legal and valid, whether a yearly, quarterly, or monthly meeting, which has not been recognized in accordance with the rules and usages of the Church as having been regularly established. By the averments of the papers as presented in the proceedings, it appeared, in effect, that all the yearly meetings throughout the world hold control over the establishment of each proposed new yearly meeting, not like the Presbyterian Church, through a General Assembly, or, like the Methodist Church, through a quadrennial General Conference, but through correspondence of recognized officers of each yearly meeting, the means only being different, but the end accomplished, so far as the present inquiry is concerned, being the same. Applying these principles to the facts stated in the answer, the subject of inquiry in the case was narrowed down practically to the recognized legitimacy of succession of each of the two



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contending societies, each of which claimed to be the White Lick quarterly meeting of Friends. If those who had withdrawn from the Western yearly meeting to form a new yearly meeting had never been recognized in accordance with the usages of the Society of Friends as a regularly and properly organized yearly meeting, they had no rights, powers, or authority which the civil courts could recognize as such; and if, as was also alleged, the defendant society had never been recognized by the established Western yearly meeting, within whose territorial jurisdiction they seemed to have attempted to organize, as properly organized, then they had no rights as such organization which the civil courts could protect or enforce. It might appear to the court or jury that the recognized Western yearly meeting, or the recognized White Lick quarterly meeting, had utterly abandoned the ancient faith and practices, doctrines and teachings of the Society of Friends; yet when the superior organizations have decided otherwise, when they continued to recognize and fellowship these organizations, notwithstanding such apparent change, as regular and orthodox, and refused to recognize or admit to fellowship the new organization which might appear to adhere strictly and tenaciously to such ancient faith and practices, courts and juries must respect their action, and in the judgment of the court could not go behind it.

Issue was afterward joined upon the questions of facts involved in the suit.

FUSION DISK. A simple apparatus has

been invented by Jacob Reese, of Pittsburg, which is found very useful in its industrial applications, while the principle of its action is a puzzling problem to scientific men. It is a circular, revolving saw, with which steel bars are cut in two. The material of the circular saw is soft iron. It fuses steel bars which are brought into close proximity to it without touching. The bar to be cut is made likewise to revolve, in the contrary direction, with a speed of 200 revolutions a minute. The revolving disk is 42 inches in diameter and $\frac{1}{2}$ inch thick. It turns with a velocity of 2,300 revolutions, equal to a tangential velocity of 25,250 feet a minute. The circular disk is mounted on an arbor and set in motion with pulleys and belts, like an ordinary circular saw. When the bar is brought almost into contact with the revolving disk, a small drop of molten metal first appears on its surface. In a few seconds a notch is made, the molten metal flowing downward in a stream of sparks, and being thrown in sparks in all directions. A singular circumstance is the fact that the incandescent sparks, when they first leave the bar, are not hot. These sparks or drops of fused metal are of dazzling whiteness, yet their temperature differs but little from that of the surrounding atmosphere. In their path through the air those sparks which are projected sidewise acquire heat from the friction. At the distance of five feet or more they burn like a red-hot poker, while their vivid incandescence has given place to a dull-red color.

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GAMBETTA, LÉON MICHEL, a French statesman, born April 3, 1838, at Cahors, where his father, a Genoese of Jewish origin, was engaged in commercial pursuits. After attaining high honors at the lyceum of his native town, he studied law in Paris, and was there admitted to the bar in his twenty-second year. For some time secretary to the late M. Crémieux, the young advocate's talents soon won for him the admiration and friendship of the veteran democrat, in whom he afterward found a firm supporter. During the interval between 1859 and 1868 he gained notice and distinction both as an eloquent forensic orator and as a writer, alternately pleading the causes of political offenders (mostly journalists), publishing essays on eminent members of the Paris bar, and contributing to the daily press articles on politics, finance, art, and other topics. In the electoral campaign of 1863, the first in which he took an active part, he acquired considerable popularity as an ultra-Liberal. But 1868 found him popular and left him famous. The empire, which sprang from the *coup d'état* of December 2, 1851, and silenced for a time the nation's voice, had now become an impossible thing.

The luster of a period marked by military successes in the Crimean and Italian Wars, and efficient to repress but not subdue the opposition, had been dimmed by the sorry issue of the Mexican expedition, and the disastrous Treaty of Prague; both indicative of the enfeeblement, or, as it has been aptly termed, the precocious dotage, of the head of the dynasty. Public discontent was at the full, and the people looked forward to a solution not long to be deferred, and already foreshadowed in overt democratic demonstrations of hostility to the Government. As an instance of such manifestations, we may cite the popular tribute to the memory of Deputy Baudin, the circumstances of whose death while endeavoring to shield the people from the fury of the troops on December 2, 1851, had been vividly recalled in a recent publication on the *coup d'état*. Numerous arrests followed; the press protested, and a subscription for a monument to Baudin was opened in the columns of "Le Réveil." Delescluze, the editor-in-chief of that journal, was prosecuted, and Gambetta called to his defense. In his speech on that occasion (November 14, 1868), the cause of

"Le Réveil" was to some extent overlooked, doubtless by design; but the authors of December 2d were lashed unsparingly in a torrent of eloquence unparalleled for impetuosity and daring since the days of Mirabeau:

Why talk here of *plébiscites* and ratifying clauses? A specious argument, in sooth, to draw from article 1338 of the civil code, and drag to this gloomy domain where it was little expected! Ah! you are not content with five million votes! After a reign of seventeen years, you perceive that it would be well to prohibit the discussion of your deeds by means of a posthumous ratification emanating from a criminal court? No; it shall not be. No; you shall not, you can not have that satisfaction. For such a cause there exists no court of appeals. It has been judged already, yesterday; it will be judged to-morrow, and the day after, and for ever, until justice shall have received her supreme satisfaction. The cause of December 2d, do what you may, will survive indelible in Paris, in London, in Berlin, in New York, and the verdict of the human conscience everywhere will be the same. But our adversaries have, besides, another accuser. Hearken: For seventeen years you have been the absolute masters of France. We would not ask what use you have made of her treasures, her blood, her honor, her glory; nor speak of her integrity jeopardized, or of what has become of the fruits of her industry: for no one needs to be told of the financial catastrophes now, at this very moment, springing as minces beneath our feet. Your most relentless accuser, because it is the attestation of your own remorse, is the fact that you have never dared to say, "We will celebrate, we will add to the list of solemnities in France, the 2d of December, as a national anniversary!" Yet each successive *régime* in our country has so honored the day of its birth. July 14th and August 10th have had their *fêtes*; and the days of July, 1830, and February 24th, in like manner. Two anniversaries only—the 18th Brumaire and 2d of December—have never been included among the solemnities of accession; for you know that the nation could not in conscience sanction them. Hear, then! that anniversary, which you have neglected, we will take for ourselves; we will celebrate it year after year; and it shall be the anniversary of our dead, until the day when the nation, once more in possession of her sovereignty, shall visit upon you the great national expiation in the name of Liberty, Equality, and Fraternity.

Rather than a defense of Delescluze, there was here an indictment of Cæsarism, and the knell of the second empire; for the structure, still so brilliant without, must be decayed within and tottering to ruin, when the very judges whose first duty it was to silence the seditious orator, heard him, as if spell-bound, to the end. Unanimous acclamations of the Liberals throughout France signified the adhesion of that party to the young advocate, thenceforward one of its chieftains. During the ensuing six months he won new laurels, in the defense of the "Progrès du Nord," at Lille, and of the "Émancipation," at Toulouse. In the general elections of 1869, M. Gambetta was presented as a Republican candidate to the Legislative Assembly for Belleville (first electoral district of Paris) and Marseilles, he announcing that he would accept no mission but that of an *opposition irréconciliable*. He was elected in both districts by an immense majority, the rival candidate for the first being M. Carnot, one of the favorite names of the democ-

racy, but twice the age of Gambetta; and those for the second, such men as Thiers, the civil engineer Ferdinand de Lesseps, and the Marquis de Barthélemy. He chose to sit for Marseilles, and took his place on the Extreme Left. After an absence of several months, occasioned by a severe throat affection brought on by the fatigues of an arduous electoral campaign, he returned to the Corps Législatif and made a series of remarkable speeches, especially one in which he protested (February 7, 1870) with indignation against the arrest of his colleague Henri de Rochefort, deputy-elect for Belleville in the place of Gambetta; and more particularly the memorable one in which (April 5th) he denounced the *plébiscite* as unconstitutional; juridically reviewed the value, essence, and economy of the various political systems; and, pointing out why the republican system ought to be preferred, seemed to invite that avowed anti-republican assembly to make the trial. It was no small triumph to be heard on such a theme for the space of three hours, with admiration and almost without interruption, by a House notoriously hostile no less to the person than to the ideas of the speaker. He could charm, but not persuade. But events already in preparation would soon place him in a sphere of action with the difficulties of which only abilities of a superior order, united to an indomitable energy and marvelous activity, could cope.

M. Gambetta's opposition to the war with Prussia was at first more measured than that of many of his colleagues; so much so, that he refused to seek, in the embarrassments to the Government consequent upon the early disasters of the campaign, a favorable opportunity for revolutionary movements. After the capitulation at Sedan, however, hesitancy gave place to decision: the republic was now to be established, and he joined the ranks of its zealous promoters. On September 3d he signed, as member of the Provisional Government of the National Defense, Jules Favre's proposition declaring the Napoleonic dynasty deposed; the next day saw him in possession of the portfolio of the Interior; and on the 7th he signed the convocation of the electoral colleges for the 18th* of October, for the purpose of appointing a Constituent Assembly. The new Minister of the Interior remained but a short time at Paris. His colleagues counting, and with reason, upon his energy and the magic power of his eloquence to rouse the inhabitants of the provinces against the invader, and meet the cruel necessities of the hour, he was attached, by decree of October 7th, to the delegation (Crémieux, Glais-Bizoin, and Fourichon) already sent to Tours, and whose tardiness in the organization of the national defense in that region was a source of anxiety to the Central Government. He set out from the capital in a balloon on the 8th of October, and, reaching Tours on

* On the 16th, an earlier date, October 2d, was fixed upon; but the elections were in the event postponed indefinitely.

the 9th, issued proclamations appealing to the patriotism of the inhabitants in terms so earnest and irresistible as to produce a profound impression throughout the departments. Combining in his own direction the cumbrous functions of three ministries—Interior, War, and Finance—his energy presided in all branches of the public service, in the Cabinet and on the battle-field; now at Orleans, Lille, or Lyons; again at Tours, or, after December 7th, at Bordeaux—wherever there were measures to be concerted, discouragement to be dispelled, disorders to be repressed, armies to be organized, or even military operations to be planned. Thus Gambetta, vigorously seconded by M. de Freycinet, maintained his authority for a period of nearly four months, in the midst of the situation here briefly sketched. In a word, he was dictator by force of circumstances. True, this dictatorship has been rudely criticised by some, and sneered at as the *dictature de l'incapacité*; but such harsh reflections on the "inutility and impotence of the dictator's impetuous efforts" did not find utterance until near the end. Among the acts and speeches pertaining to that period, French biographers cite the decree for the mobilization of the National Guards, at the expense of the respective departments; the proclamation containing the announcement to France of the surrender of Metz, and the denunciation of Bazaine as a traitor—the loan of 250,000,000 francs negotiated with British capitalists; the dissolution of the Councils-General elected under pressure of the imperial administration; the successive organization of the two Armies of the Loire under Generals Aurelle de Paladines and Chanzy; the organization of the Army of the North, commanded in turn by Generals Bourbaki and Faidherbe; the disastrous issue of the campaign of the east (under Bourbaki), hastened by the armistice, and the removal from office of such members (even life-members) of the magistracy as had taken part in the mixed committees in 1852. After the surrender of Paris, which he spoke of as an act of *culpable haste*, he issued the convocation of electors for the National Assembly, but stipulating the ineligibility of such persons as had been candidates for or had held office under the empire. The Central Government, however, annulled that stipulation, and, on Gambetta's refusal to comply, dispatched one of its members, Jules Simon, to Bordeaux, with orders to execute the decree as at first drawn up. On this, M. Gambetta resigned all his functions, and withdrew from a government with which he was now in open disagreement. The elections of February 8, 1871, afforded abundant proof of the continued prestige of his name. He was spontaneously proposed as candidate in a number of departments, and elected in nine, among these being that of Bas-Rhin, for which he chose to sit, as a protest against all measures entailing the dismemberment of France, although the cession of that province to the German Em-

pire would deprive him of his seat in the Chamber. At the complementary elections of July 2d, he was returned by three departments, and gave his option this time for Paris. He took his place at the Extreme Left, became a member, and was chosen President of the *Union Républicaine*. During the turbulent period of the Commune, and before the July elections, M. Gambetta had spent a brief vacation at San Sebastian, in Spain. After his return he was for a long time seldom seen at the Chamber, the Extreme Right being then in majority. And later, when he again took part in the debates, his attitude was uniformly conciliatory, spite of incessant and petulant attacks on the part of his colleagues of September 4th, and to which he had decided never to reply. On more than one occasion he prevailed upon his party to sustain the government of Thiers, notwithstanding the latter had frequently assailed him in parliamentary discourses; but once he left Thiers to support the candidature of M. Barodet against that of M. de Rémusat. In 1871 and 1872 it was usual to see Gambetta's name associated with the preparation of a government party in the republic, with its Whigs under Gambetta and its Tories under Thiers. The year 1872 was marked by two notable speeches from the leader of the Left. In one of these, on the anniversary of the taking of the Bastille (July 14th), he dwelt on the necessity of reconstituting the union of the middle classes, of adopting secular and compulsory instruction, universal military service, and a policy of conciliation, crowned by an amnesty without restriction. In the other, delivered at a private reunion, he referred to the advent of a "*new social stratum*, by no means inferior to its predecessors." The theme of this latter speech and its tone of hostility to the existing administration alarmed the public mind in the south, and provoked the open resentment of the Government. His most important speech in 1873 was one against the Septennate (November 19th). On June 9, 1874, he interpellated the De Fourtou Ministry concerning Bonapartist intrigues, and M. Rouher, in the course of his reply, having touched upon the revolution of September 4th, Gambetta retorted: "There are certain men to whom I deny the right and privilege to arraign the revolution of September 4th—I mean the wretches who have been the ruin of France." On being called to order, he added, "My expression undoubtedly implies more than an outrage—it implies a brand of dishonor, and I maintain it."

In the course of the winter of 1874-'75, for the most part occupied in the task of effecting a union between the several subdivisions of the Left and the Right Center, with a view to the adoption of the constitutional laws, M. Gambetta delivered one of his most effective and most finished speeches (February 12, 1875). From that day forward the so-called policy of "opportunism" has been the distinctive policy of the entire Left, save the

small groups of *Intransigeants*, then headed by Louis Blanc and Alfred Naquet. Throughout the remainder of 1875, Gambetta was the most formidable adversary of the Buffet Cabinet, though without any departure from those principles of conciliation embodied in his own maxim, "Moderation is the true course in politics." In the ensuing senatorial elections, his influence preponderated, as usual; and in those for the Chamber he busied himself, besides his own candidatures (Paris, Lille, Marseilles, Bordeaux, and Avignon), in suggesting or ratifying the choice of other candidates in the several departments.

In an address to his constituents of Belleville he found occasion to explain the philosophy of his political creed: "I deny the absolute in all things, so you may well imagine that I will not admit it in politics. I am of a school that believes only in relation, analysis, and observation, the examination of facts, the comparison and combination of ideas; a school that takes into account mediums, races, tendencies, prejudices, and antagonisms. Politics are not, nor can they be, always the same." As the acknowledged leader of the Republican majority in the new Chamber he again essayed, but in vain, to accomplish the unification of the Left; and combated clericalism, denouncing pulpit interference in electoral concerns.

The position of President of the Budget Committee (April 5, 1876) offered him an opportunity for the introduction of needed reforms. But the preparation of his vast financial schemes for the future, and in which he revealed surprising skill, did not prevent him from following up the *politique opportuniste*, on which he had staked his name and parliamentary success. Thus he supported M. Margue's proposition of amnesty by categories against M. Raspail, the advocate of universal amnesty; adopted the bill for reducing the period of service in the army to two years; protested energetically against the attacks leveled at him from the rostrum and through the press by a certain group of *Intransigeants*; and reiterated his decisions in favor of amnesty by categories, stigmatizing "those disreputable men who had sought to turn the Commune's despair to their own advantage." On January 28, 1877, he was re-elected President of the Budget Committee.

M. Jules Simon, appointed Premier and Minister of the Interior in December, 1876, was early assailed by the Bonapartists and the prelates; but Gambetta's preponderant influence was such that he obtained the passage by the Chamber of a resolution requesting the Government "to use all the legal means at its disposal to repress the anti-patriotic agitation." Some time afterward, in a famous speech before his Belleville constituents, he exclaimed, at the close of a vehement tirade against the Church party, and referring to the concluding words of his address to the House in behalf of Jules Simon: "Yesterday we said, 'Clericalism—

there is the enemy!' to-morrow we must be able to say, 'Clericalism—behold the vanquished!'" Yet the Premier had another enemy behind the Churchmen. M. Simon was the genuine representative of Thiers in the Government, and MacMahon regarded his presence in the Council as a check upon his own movements, and the Marshal-President preferred to be surrounded by men willing to adopt his mode of thinking. More than all this, there existed a strong personal animosity between the two men, which was not likely to be diminished by the recollection of the disparaging if not contemptuous terms in which Simon had spoken of MacMahon, when the re-election of the latter had been proposed. On May 16th the Premier received a note of dismissal from the President, who assigned as the reason for such a sudden determination the attitude of the Cabinet in the debate on the press law the day previous, when, by the immense majority of 398 to 56, the House resolved to abrogate the law passed by the reactionary Assembly of 1875. Gambetta protested, and the resolution was adopted that "the Chamber, considering that it is of importance in the present crisis, and with a view to the fulfillment of the mission which it has received from the country, to remember that the preponderance of the parliamentary power, exercising itself through the ministerial responsibility, is the first condition of the government of the country by the country, declares that confidence of the majority can not be obtained except for a Cabinet free in its action, and resolved to govern according to those republican principles which alone can guarantee order and prosperity at home and peace abroad."

M. Gambetta thenceforward concentrated all his forces on the one grand object of forcing the Marshal-President to resign, and triumphed in the end, though he himself did not pass unscathed through the struggle. The time had come to precipitate the overthrow of an administration now grown obnoxious to all parties, save the two which were themselves most obnoxious to the majority of the French people and to republicanism. Division had been extinguished in the republican ranks, and Gambetta held the command more firmly than ever. To add to the unpopularity of the Government, Jules Simon and his ministers had been succeeded by the Broglie-De Fourtou Cabinet, called by Gambetta a "government of priests." In the ensuing electoral campaign, the ubiquitous orator kept the public mind vividly impressed with the real interests at stake, reiterating at every stage of the crisis his protest against personal *régime*. "When France makes her sovereign voice heard," he cried, in his speech of August 15th, at Lille, and pointedly alluding to the Marshal-President, "he must quit or submit (*il faudra se soumettre ou se démettre*)." For his temerity he was sentenced to three months' imprisonment, and fined two thousand francs; but the event proved the

words to have been prophetic, and showed how well the speaker knew the power behind him.

Another prosecution incurred by similar language, in a later speech to the electors of the twentieth arrondissement of Paris, seemed but to goad him to the attack, which he only relinquished as victor. A brief but fierce conflict between the President and the Chamber; the downfall of the Broglie-De Fourtou and the accession of the Dufaure or Parliamentary Ministry (December); Gambetta's visit to Italy and his conferences with Italian statesmen, keenly piquing public curiosity; his angry encounter with De Fourtou, and the resulting duel (November 18, 1878), and Gambetta's refusal of a proffered portfolio—such were about the only remaining events of importance relating to our subject, until the resignation of President MacMahon (January 5, 1879). On January 30th, Gambetta accepted the presidency of the Legislative Assembly under the Grévy administration, having been elected by an almost unanimous vote to that position, which he quitted for that of Premier on November 14, 1881. The history of his public life since January, 1878, including his triumphant support of the plenary amnesty bill, carried (June 21, 1880) by 333 against 140 votes, as the result of the first oration he had delivered from the tribune of the Palais-Bourbon since the somber days of the revolution of September 4, 1870; the defeat of his cherished electoral reform bill for the *scrutin de liste*, etc., is in form and in fact the history of the Corps Législatif itself, and reference therefor may be made to the article FRANCE, in our volumes for 1878, '79, '80, and the present one.

GARFIELD, JAMES ABRAM, twentieth President of the United States, born at Orange, Cuyahoga County, Ohio, November 19, 1831; died at Long Branch, New Jersey, September 19, 1881. (For particulars of his life down to his election to the office of President, see "Annual Cyclopædia" for 1880.) In the interval between his election and his inauguration on the 4th of March, with the exception of a brief visit to Washington on private business in November, he continued to reside at Mentor, Ohio, where he was visited by many public men, some of whom came on his special invitation. The composition of his Cabinet, and his general purposes in regard to public appointments, were the subject of constant speculation, and in consulting the political leaders of his party he manifested a desire to unite them all in support of his Administration. It was early understood that Senator Blaine, of Maine, who had been one of the chief competitors for the nomination at Chicago, was to be Secretary of State. Among those summoned to Mentor for consultation was Senator Conkling, who had led the delegates in the convention pledged to the nomination of General Grant; and it was given out that Secretary Sherman, who had been the other leading candidate for the nomination, could retain his

place at the head of the Treasury, if he desired to do so. The President-elect took leave of his friends and neighbors on the last day of February, and arrived at the capital on the 1st of March. The inauguration on the 4th was attended with unusual civic, military, and social display, and there was a general feeling of hopefulness and confidence in the new Administration. The Senate met in special session, and on the 5th the Cabinet appointments were submitted and promptly confirmed. Mr. Blaine appeared at the head of the list, as was expected; Secretary Sherman had preferred a re-election to the Senate; and the influence of Mr. Conkling was not noticeable in the make-up of the Cabinet. The Senate was in session until the 20th of May, but the time was mostly taken up with a controversy over its organization, and it was not until May 4th that executive sittings were held to act on other nominations. On the 22d of March several names were sent in for offices in the State of New York, including those of district attorneys and marshals, and the Collector of the Port of Buffalo. The appointees were supposed to be entirely acceptable to the Senators from that State. On the day following Judge William H. Robertson was named as Collector of the Port of New York, the incumbent of the office, E. A. Merritt, being appointed consul-general at London. These appointments were known to be displeasing to Senator Conkling, and provoked considerable discussion. When the Senate finally went into executive session, Mr. Conkling declared his opposition to the appointment of Mr. Robertson, claiming that he had a right to be consulted in the matter, and that the selection of a conspicuous political enemy of his for so important an office in his own State was an insult, and in violation of pledges given him by the President. Finding that the New York Senators were determined, if possible, to defeat the confirmation of Robertson and Merritt, the President withdrew all the other appointments for that State in order that their cases might be acted on alone. Seeing that they could not prevent the confirmation, Senators Conkling and Platt both resigned on the 16th of May, and returned to New York to seek a vindication of their course by an immediate re-election. Robertson and Merritt were then confirmed, and the other New York appointments renewed, a change being made in that for Collector of Buffalo. Out of this controversy grew considerable factional excitement between what were known as the "Stalwart" and the "Administration" wings of the Republican party.

On the morning of July 2d, the President set out from the Executive Mansion with Secretary Blaine for the Baltimore and Potomac Railroad station, where he was to join several members of the Cabinet for a trip to New York and New England, including visits to Williams College and the White Mountains.

The two entered the station arm in arm, and while they were passing through the ladies' waiting-room two pistol-shots were heard in quick succession, one of which took effect in the President's back. He sank to the floor, bleeding profusely, and for a moment was unconscious, and then was affected with vomiting. To get him out of the confusion he was carried to the offices of the company, on the second floor. Several physicians were summoned, and, after a superficial examination of the wound, the President was taken back to the Executive Mansion. His wife was summoned from Long Branch, whence she was to have joined him on his Eastern trip. Among the physicians first summoned was D. W. Bliss, an old friend of Garfield, for whom Secretary Lincoln had sent his carriage, and, at the request of the President, he took charge of the case. With the acquiescence of Mrs. Garfield, he selected Drs. J. K. Barnes, Surgeon-General of the Army, J. J. Woodward, also of the army, and Robert Reyburn, as his assistants. The result of their first careful examination was the opinion that the bullet had penetrated or grazed the liver, and had lodged in the front wall of the abdomen. They believed that the injury was not necessarily fatal, but concluded that it was not advisable to attempt the removal of the bullet. On the evening of July 3d it was decided to call in Drs. D. Hayes Agnew, of Philadelphia, and Frank H. Hamilton, of New York, for consultation and advice. They approved of what had been done, acquiesced in the opinion of the other physicians as to the course of the bullet, the inadvisability of attempting to extract it, and the chance of recovery.

The person who had fired the pistol at the railroad-station had been promptly seized and taken into custody. He proved to be Charles J. Guiteau, who had been a persistent but unsuccessful applicant for an appointment, first as minister to Austria, and then as consul-general to Paris. He describes himself as a lawyer, a politician, and a theologian, and is reported to have said, on being taken into custody: "All right, I did it, and will go to jail for it. I am a Stalwart, and Arthur will be President." A letter was found on his person in which the death of the President was spoken of as a "sad necessity" that would "unite the Republican party and save the republic." Guiteau was lodged in the District of Columbia jail, to await the result of the President's wound.

The news of the attempted assassination created intense excitement throughout the country, and it was considered in some quarters as an indirect result of the political system that encouraged unregulated office-seeking and occasioned many disappointments, and to the quarrel between the so-called "Stalwarts" and Administration Republicans, which had originated in the controversy over appointments in the State of New York. There was an al-

most universal outbreak of sorrow and indignation at the crime, and sympathy for the sufferer and his family, and this found expression in the action of numerous public bodies and political assemblies, of both parties and in all sections of the country. It extended to foreign lands, and brought forth many official and unofficial expressions of sympathy. After the first shock had passed, the announcement that the wound was not necessarily fatal, and that there was a chance of recovery, gave rise to a hopeful feeling, which increased with daily reports of favorable progress. As early as the 10th of July Governor Foster, of Ohio, suggested to the Governors of all the States the appointment of a general day of thanksgiving for the President's escape from death, and the prospect of his speedy recovery. In several States this suggestion was acted on. The favorable reports continued for some days, and the President's recovery was confidently predicted by the surgeons in attendance. They concluded that no important organ had been injured, and that the bullet was likely to become encysted and harmless, or might possibly declare its presence in a way that would admit of its successful removal. The first check in the favorable symptoms was on the 18th of July, and was followed by an apparent resumption of progress. The first serious relapse occurred on the 23d of July, being attended with chills and more or less of fever. The bullet had entered between the eleventh and twelfth ribs about four inches to the right of the spinal column, the assassin standing about six feet behind and a little to the right of his victim, and the bones had been somewhat splintered. The diagnosis assumed that there had been a deflection which sent the bullet downward and to the right. The probing and treatment of the wound had followed this supposed course, where there was by this time a channel several inches in depth. The unfavorable symptoms were caused by obstruction in the flow of pus, and on the morning of the 24th an incision was made by Dr. Agnew to give a freer passage from the supposed track of the wound. This was followed by relief and a resumption of hopeful reports. On the 28th there was a slight recurrence of fever, and day by day thereafter there was more or less of febrile rise in the temperature and pulse, attended with abnormal respiration.

The heat of the season aggravated the difficulty of dealing with the case, and artificial means of cooling the atmosphere of the Executive Mansion were resorted to. Large quantities of ice were placed in the cellar, over which air was passed and then admitted to the sick-room by means of an apparatus specially devised for the purpose. The case was also believed to be more or less complicated by malarial influences prevailing in and about the White House. Besides the physicians already mentioned, there were in constant attendance on the President his intimate friends Colonel

A. F. Rockwell and General Swaim, and Mrs. Dr. Edson, the family physician of Mrs. Garfield; Dr. Boynton, the President's cousin and former physician, was also a careful and solicitous watcher. Experiments were made for locating the bullet by means of the induction balance under the direction of Professor Graham Bell and an assistant, the result of which was announced, as follows, in one of the medical bulletins of August 1st:

Under the supervision of the attending surgeons, Professors Bell and Taintor this morning made another application to the patient's body of the electrical apparatus known as the induction balance, with a view to completing the tests of last week, which were not entirely conclusive, and ascertaining definitely and certainly, if possible, the location of the ball. Professors Bell and Taintor have been almost constantly engaged for two weeks in experiments with the induction balance, and have made several modifications and improvements which greatly add to its efficiency. They tried this improved apparatus upon the President's body for the first time last week, and although it indicated faintly the location of the ball, it was afterward found to be slightly out of adjustment, and the experiment was not regarded as perfectly conclusive. The results of this morning's tests, however, are entirely satisfactory both to Professors Bell and Taintor and to the attending surgeons, and it is now unanimously agreed that the location of the ball has been ascertained with reasonable certainty, and that it lies, as heretofore stated, in the front wall of the abdomen, immediately over the groin, about five inches below and to the right of the navel.

Favorable reports continued during the first days of August, and plans were discussed for removing the patient to the Soldiers' Home. On the 6th unfavorable symptoms were reported as the effect of the heat, and on the following day they were declared to be more serious, and attributed to further obstruction of pus in the wound. A new incision was made, this time below the rib, giving another and freer outlet from the assumed track of the wound. Relief and renewed progress were announced as the result, but there seemed to be no satisfactory evidence of healing. On the 10th the President, for the first time since the shooting, signed an official document, presented for the purpose by the Secretary of State, being one of the papers in an extradition case pending with Canada. About this time there was considerable discussion as to the correctness of the medical treatment, and also as to the propriety of leaving the executive department of the Government without an active head, some maintaining that the exigency existed under which the Constitution provided for the devolving of the powers and duties of the presidential office on the Vice-President on account of "inability." After the 10th of August the reports from the sufferer were less hopeful, and unfavorable symptoms declared themselves on the 13th. On the 15th the patient was admitted to be in a precarious condition. His pulse went to 130, and he was affected with "rigors" and vomiting. Thereafter the stomach was continually troublesome, and much of the time nutriment and stimulants were administered by injection.

There was an apparent recovery from the relapse of the 15th, and hope was still cherished. On the 18th inflammation of the right parotid gland was announced, which increased until an incision was made in it on the 24th. The condition of the patient was fluctuating during these days, and he began to express a strong desire to be removed from Washington. On the 25th his condition became critical, and on the day following fears of a fatal ending of all hope were entertained throughout the country. There were, however, slight indications of improvement on the 27th, which increased until by the 30th there was a renewal of hopeful announcements. On the 1st of September the question of removal was taken up again, and the gastric disturbance returning on the 4th, it was decided to take the patient to Long Branch, in accordance with his own earnest desire.

The journey to Long Branch was made on the 6th of September. The cottage of Mr. C. J. Francklyn, in Elberon Park, had been prepared for the reception of the President, and, with two others near by, was to be occupied by his family and attendants. A special train of the Pennsylvania Railroad was fitted up for the transfer from Washington to Long Branch, and arrangements were made for running it without delay and at a high rate of speed over the 228 miles of distance, which included parts of six different lines of railroad. The patient was removed from the Executive Mansion to the Baltimore and Potomac Railroad station without serious disturbance, at an early hour in the morning, and was made as comfortable as possible in a car specially fitted for the purpose. The departure from Washington took place at 6:30 A. M. The route was over the Baltimore and Potomac Railroad to Baltimore; thence, passing the outskirts of the city, it entered upon the Philadelphia, Wilmington and Baltimore Railroad; passing over the Junction Railroad from Gray's Ferry to West Philadelphia, and thence to Mantua, it proceeded by the New York division of the Pennsylvania road to Princeton Junction, thence to Monmouth Junction, entering upon the Amboy division, and reaching the Long Branch division of the Central Railroad of New Jersey at Sea Girt. The rate of speed was at times as high as sixty miles an hour; few stops were made, and Long Branch was reached at one o'clock—3,500 feet of railroad-track having been laid specially to convey the train from the regular station to the immediate vicinity of the Francklyn cottage, at Elberon. The following is the medical bulletin issued the same evening:

6.30 P. M.—Since the last bulletin was issued, the President has been removed from Washington to Long Branch. He was more restless than usual last night, being evidently somewhat excited by anticipations of the journey. This morning, at 5.30 o'clock, his pulse was 118; temperature, 99° 8'; respiration, 18. We left Washington with the President at 6.30 A. M. Owing to the admirable arrangements made by the Pennsylvania Railroad Company, and to the

ingeniously arranged bed, designed by Mr. T. N. Ely, the fatigue incident to the transportation was reduced to a minimum. Nevertheless, as was anticipated, some signs of the disturbance produced by the journey have been exhibited since his arrival, by rise of temperature and increased frequency of pulse. At present his pulse is 124; temperature, 101.60°; respiration, 18.

D. HAYES AGNEW,
FRANK H. HAMILTON,
D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBERT REYBURN.

The President showed signs of gratification at the change, but there was no immediate evidence of improvement. On the 8th the symptoms were regarded as promising again, and at the patient's request Drs. Barnes, Woodward, and Reyburn withdrew from the case, leaving it in the hands of Drs. Bliss, Agnew, and Hamilton. The same week a day of prayer for the recovery of the President was observed in several of the States. For two or three days the reports were hopeful, but bronchial trouble was developing, and threatening the lungs. From the 11th to the 15th the reports were fluctuating and rather dispiriting. The patient was placed for a few hours each day in a reclining chair where he could gaze from the window of the cottage upon the sea. On the 16th there was a serious relapse, with marked symptoms of blood-poisoning, including severe chills, fever, and inability to retain anything in the stomach. The last day is thus briefly described by Dr. Bliss:

At 8 A. M., September 19th, the pulse was 106 and feeble; temperature, 108.8°, and all the conditions unfavorable. In half an hour afterward there was still another chill, followed by febrile rise and sweating, and also with pain as before. During the periods of chill and fever he was more or less unconscious. He passed all day in comparative comfort, and at 8.30 in the evening his pulse was 108, respiration 20, and temperature evidently a little lower than normal. At 10.10 P. M. I was summoned hastily to the bedside, and found the President in an unconscious and dying condition, pulseless at the wrist, with extreme pallor, the eyes opened and turned upward, and respiration 8 per minute, and gasping. Placing my finger upon the carotid, I could not recognize pulsation; applying my ear over the heart, I detected an indistinct flutter, which continued until 10.35, when he expired. The brave and heroic sufferer, the nation's patient, for whom all had labored so cheerfully and unceasingly, had passed away.

Besides the physicians there were present at the moment of death Mrs. Garfield and her daughter, Colonel Rockwell, Mr. O. C. Rockwell, General Swain, Dr. Boynton, J. Stanley Browne and Warren Young, the President's private secretaries, and four attendants of the sick-chamber. Death was preceded by a severe pain at the heart, and the President's last words were, "O Swain!" The announcement of his demise evoked expressions of universal grief, not only throughout this country but from the principal cities of the Old World. Messages of condolence came from representatives of authority abroad as well as at home, and from many private and unofficial sources.

The following personal message was sent to Mrs. Garfield by Queen Victoria:

BALMORAL COURT.

MRS. GARFIELD, LONG BRANCH: Words can not express the deep sympathy I feel with you at this terrible moment. May God support and comfort you as he alone can!

THE QUEEN.

An autopsy of the body was made on the afternoon of September 20th, Dr. D. S. Lamb, of the Medical Museum at Washington, handling the knife, and all the physicians who had taken part in the case, as well as Dr. Andrew H. Smith, of Elberon, being present. The result showed that the diagnosis of the wound, so far as it concerned the course of the bullet, had been mistaken from the start. The following is the official announcement of the result of the autopsy:

By previous arrangement a *post-mortem* examination of the body of President Garfield was made this afternoon, in the presence and with the assistance of Drs. Hamilton, Agnew, Bliss, Barnes, Woodward, Reyburn, Andrew H. Smith, of Elberon, and acting Assistant Surgeon D. S. Lamb, of the Army Medical Museum, Washington. The operation was performed by Dr. Lamb. It was found that the ball, after fracturing the right eleventh rib, had passed through the spinal column in front of the spinal canal, fracturing the body of the first lumbar vertebra, driving a number of small fragments of bone into the adjacent soft parts, and lodging below the pancreas, about two inches and a half to the left of the spine, and behind the peritonæum, where it had become completely encysted. The immediate cause of death was secondary hæmorrhage from one of the mesenteric arteries adjoining the track of the ball, the blood rupturing the peritonæum, and nearly a pint escaping into the abdominal cavity. This hæmorrhage is believed to have been the cause of the severe pain in the lower part of the chest complained of just before death. An abscess cavity, six inches by four in dimensions, was found in the vicinity of the gall-bladder, between the liver and the transverse colon, which were strongly adherent. It did not involve the substance of the liver, and no communication was found between it and the wound. A long, suppurating channel extended from the external wound between the loin-muscles and the right kidney almost to the right groin. This channel, now known to be due to the burrowing of pus from the wound, was supposed during life to have been the track of the ball. On an examination of the organs of the chest evidences of severe bronchitis were found on both sides, with broncho-pneumonia of the lower portions of the right lung, and, though to a much less extent, of the left. The lungs contained no abscesses and the heart no clots. The liver was enlarged and fatty, but free from abscesses. Nor were any found on any other organ, except the left kidney, which contained near its surface a small abscess about one third of an inch in diameter. In reviewing the history of the case in connection with the autopsy, it is quite evident that the different suppurating surfaces, and especially the fractured, spongy tissue of the vertebræ, furnish a sufficient explanation of the septic condition which existed.

D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBERT REYBURN,
FRANK H. HAMILTON,
D. HAYES AGNEW,
ANDREW H. SMITH,
D. S. LAMB.

Dr. Bliss concluded a review of the case, published in the "Medical Record," in October, as follows:

The most important points revealed by the autopsy, and which are to be considered by the profession, are:

1. Would the condition of the President, immediately after his injury, have justified a more thorough exploration of the wound, or would such a procedure have been safe at any time before primary reaction was established?

2. Was his transfer to the Executive Mansion timely and properly made?

3. Were the best and most judicious means instituted to secure prompt reaction?

4. After reaction was comparatively complete on the 3d of July, and when there had occurred spontaneous evacuations of normal urine and alvine evacuations, and an absence of any evidence of internal hæmorrhage or peritonitis, would further exploration have been necessary, especially when it is considered that the probable reopening of the lacerated vessels would induce hæmorrhage?

5. Were the surgeons then in attendance justified in deferring any further exploration until the arrival of the distinguished counsel on the morning of July 4th?

6. At the consultation, July 4th, and after it was proved to be impossible to follow the track of the ball any considerable distance beyond the fractured rib, would an operation have been justifiable, necessitating an incision through the soft parts, and a removal of a portion of the rib, so as to develop the track?

7. In the light of modern military surgery, which teaches the readiness with which leaden balls become encysted, would an operation at any time for removal of the missile have been justified unless there was some evidence of the missile being a source of irritation?

8. Considering carefully the condition of the President during the entire period of his illness, and the facts revealed by the autopsy, would not any operation for the purposes before mentioned have placed the President's life in great jeopardy, and, at best, have hastened the time of his death without affording any signal relief?

9. Was the treatment of the case as presented proper, and did it or not prolong his life to the utmost limit?

10. Was the mistaken diagnosis a natural result of the conditions present, and, to have developed a correct diagnosis, would not operative procedures have ensued?

11. If we had known the exact course and locality of the ball, and the organs injured in its passage, should the treatment have been modified in any particular?

I desire to say, in a brief review of the leading facts as to the general conduct of the case, that it has been apparent to the medical reader that my prognosis was favorable, and, notwithstanding the mutations, I augured a successful termination. It is but justice to myself to state that my prognosis was based on a lesion of minor importance. Had our diagnosis been correct, modern surgery should have conducted the case to a successful termination. I believe the medical profession, whom I address, will bear me out that the prognosis was correct, if the diagnosis had been also correct. I was not always able, during the progress of the case, to account for many of the more profound symptoms, and yet could not succeed in learning of any more extensive or complicated lesions than were first suspected. I desire to make the inquiry whether more extensive explorations could have been safely made, or whether the condition presented—a knowledge of the relative position of the patient to the assassin, the character of the missile, and the condition of the lesion and symptoms which follow—would have directed the investigation toward the actual track and lodgment of the ball, the track of the ball presenting a course of entrance downward and forward to the point of impingement upon the eleventh rib, and being then deflected to the left at almost a right angle, passing behind the kidney, perforating the intervertebral cartilage and first lumbar vertebra

anterior and to the left of the kidney, and finding its lodgment below the left extremity of the pancreas, wounding in its track the splenic artery. I would ask if any known instrument or means of exploration has ever been presented to the profession capable of tracing before the death of said patient the course of this bullet? Also whether the conditions could have been improved or mitigated, or his life preserved longer by any other line of treatment; whether, in view of the facts, modern conservative surgery could offer anything more for the comfort or recovery of the illustrious patient?

It is proper to state, in conclusion, that the most approved antiseptic dressings were used during the entire progress of the case.

There was considerable lay and professional discussion of the medical treatment, the general conclusion being that, aside from the mistaken diagnosis, the wound was necessarily mortal, and it is doubtful if anything more could have been done to mitigate the sufferings of the patient.

The remains lay at the Francklyn Cottage, Elberon, until Wednesday, September 21st, and the public was admitted to view the face of the dead President. After brief religious ceremonies at ten o'clock, on the 21st, the body was borne by special train from Long Branch, and, passing silent and reverent crowds at every station, reached Washington at about 4.30, where it was received by an imposing funeral escort and taken to the Capitol. It was laid in state under the great dome, previous to being taken to Cleveland, Ohio, for burial. It was exposed to view during the 22d, and crowds of people passed through the rotunda to look upon the face of the deceased. Meantime, preparations were made in Cleveland for receiving the remains, and there the principal obsequies were to take place. On the afternoon of the 23d, after impressive ceremonies in the rotunda of the Capitol, the coffin was borne to the station of the Baltimore and Potomac Railroad, and the funeral train started a little after five o'clock. Official representatives of the various departments of the Government, of most of the States, and many municipal corporations, accompanied or followed the remains. The train, heavily draped with mourning emblems, entered Cleveland at 1.20 o'clock P. M., on the 24th, and the body was placed in state on a catafalque beneath a pavilion erected for the purpose in the center of Monumental Park. All day on Sunday, the 25th, a great concourse of people passed the pavilion, and on the following day an impressive funeral took place, and the remains were deposited in a tomb in Lake View Cemetery, to await the preparation of the place of final sepulture which had been set apart for the purpose by the trustees of the cemetery. The procession included a military and civic pageant of unusual proportions. The day of the funeral, September 26th, was observed throughout the country as an occasion of general mourning, in response to a proclamation of President Arthur, which had been supplemented in many of the States by the recommendations of their Gov-

ernors. There was a general suspension of business, a draping of public and private buildings, and religious services in many churches. The day was also extensively observed in Europe, and for the first time mourning was ordered in court circles in behalf of an official of a republic. A committee was at once organized in Cleveland to take charge of the project of raising an appropriate monument over the final resting-place of the dead President, a popular subscription for the purpose being invited. Already a subscription had been started in New York for the benefit of the bereaved family, which reached the sum of over \$360,000, the income to be paid to Mrs. Garfield during her life, and the principal to be divided among her children on her death.

GEOGRAPHICAL PROGRESS AND DISCOVERY. On the 20th of December came tidings from the Jeannette polar expedition, which had not been heard from for two years and a quarter, and was almost given up as lost. The Governor of Eastern Siberia telegraphed that the Jeannette had been wrecked, and that two boat-loads of the crew had landed near the mouth of the Lena River. The Jeannette was crushed in the ice on the 23d of June, about five hundred geographical miles northeast of the Lena delta, in latitude 77° north, longitude 157° east. The officers and crew retreated with sledges and boats. They embarked in three boats, which kept together till, within fifty miles of the mouth of the Lena, they were driven apart by a heavy gale, and prevented from finding each other again by a fog. The whale-boat, containing Lieutenant Danenhower, who was disabled, Chief-Engineer Melville, who took the command, and nine men, entered the east mouth of the Lena River on the 17th of September. They were stopped by ice in the river, but found a native village, where they received succor. Melville placed himself in communication with the Russian commandant at Boloemga. They were promptly assisted by the Russian authorities, and afterward conveyed to Yakutsk. Ninderman and Noras arrived at Boloemga, October 29th, bringing the information that the first cutter, containing Lieutenant De Long, Dr. Ambler, and twelve men, had landed at the north mouth of the Lena. They were in a pitiable condition, all badly frozen, and in danger of starvation. Native scouts were sent out to relieve them. As soon as he was able, Melville conducted a search-party to the mouth of the Lena to relieve the other boat's crew. He found the spot where De Long and his companions had encamped, but they had all departed. The log-books and instruments of the Jeannette were buried in the ground, and the spot marked by stakes. Three letters by De Long were found in the deserted huts. Notwithstanding the information afforded by these records of the intentions of the retreating party, a prolonged search proved fruitless. The Russian authorities took measures for continuing the search during the winter. Melville received

permission from Washington to remain with two men and renew the quest in March. At the close of the year no news had been received of the second boat, containing Lieutenant Chipp with the rest of the crew. Danenhower and the other nine men of the rescued party set out for the United States. Lieutenant Danenhower was incapacitated for commanding the party or taking part in the search by reason of temporary blindness.

The Jeannette expedition was equipped at the expense of the publisher of the "New York Herald," J. G. Bennett, and departed on a polar search in 1879, sailing from San Francisco, July 8th. The commander was Lieutenant G. W. De Long, of the United States Navy, an experienced Arctic explorer, who had taken part in the expedition on the Juniata in 1873, in search of the survivors of the stranded *Polaris*. The steam-yacht *Pandora*, just returning from an Arctic voyage, was purchased for the expedition, and strengthened and fitted out with every appointment for a long voyage in the polar regions. She was provisioned for three years. Captain De Long selected the route to the east of Wrangel Land. He expected that he would be obliged to resort to sledges in ascending to the pole, and chose this untried route, because the ice in the regions north of Behring Strait is of a more favorable character than about Smith's Sound, or Franz-Josef Land, where the highest latitudes had been made. There was supposed to be much land north of East Siberia, if Wrangel Land itself was not an Arctic continent, possibly the continuation of Greenland, as conjectured by Petermann. The last authentic news from the Jeannette was the letters to the "Herald," from Oonalaska and St. Lawrence Bay, before she sailed for the unexplored north, the latest dated August 27, 1879. She was last seen on the 2d of September of that year, sailing on the intended course, fifty marine miles south of Herald Island.

The Jeannette was a steam-yacht, built originally for the British Government, and intended as a dispatch-boat. She was bark-rigged, with considerable rake, long and narrow, and lying low in the water. She registered 420 tons. She was sold by the Royal Navy, immediately after she was built, to Allan Young, an English yachtsman and Arctic voyager. After Captain Young had made one trip in her, she was purchased by James Gordon Bennett for the Herald expedition. Her beams and braces were re-enforced until it was thought that she could not be nipped in the ice. She already had a wedge-shaped floor, a form which was supposed to insure her against being crushed between ice-floes, as is common with flat-floored or straight-sided vessels, the sloping bottom being designed to raise her above the ice. Lieutenant George W. De Long was born in New York in 1844, and received his promotion as lieutenant in the navy in 1869. He was an enthusiastic polar navigator, and was bent upon being the discoverer of the north pole. He had the repu-

tation of being an officer of much energy and executive talent. The second officer was Lieutenant Charles W. Chipp, of the United States Navy, who had been a companion of De Long in a perilous voyage in a steam-launch to the northward from Upernavik, in Greenland, where the *Juniata* was stopped by the ice in the search for the missing members of the *Polaris* crew. The third officer was Master John Wilson Dannenbower, of the United States Navy. The engineer, George W. Melville, had served on the *Tigress*, in her voyage for the relief of the *Polaris* party. Dr. James Markham Marshall Ambler, the physician, was a surgeon in the navy. Jerome J. Collins, the scientist and correspondent of the "New York Herald," was born in Cork, Ireland, in 1841; an engineer by profession, he was the organizer of the "Herald" weather bureau, which was started about 1873. Raymond L. Newcomb was the taxidermist. The ice-pilot was William Dunbar, an experienced whaling captain. The crew was composed as follows: Jack Cole, boatswain; Alfred Sweetman, carpenter's mate; George Washington Boyd, carpenter; William Ninderman, carpenter; Walter Lee, machinist; George Landertack, coal-heaver; Louis Phillip Noras, Herbert Wood Leach, Henry David Warner, James H. Bartlett, George Stephenson, Adolph Dressler, Carl August Gortz, Peter Edward Johnson, Henry Wilson, Edward Star, Hans Hælnor Erickson, Henry Hansen Kaack, Neils Ivorson, and Albert George Kaihne, seamen. There were also two Chinamen in the crew.

De Long stated his intention of landing on Wrangel Land, and of leaving records in cairns on its eastern shore, and on Herald Island. No serious apprehensions for the safety of the expedition were felt until the spring of 1881. When the news came that Lieutenant Berry, commander of the *Rodgers*, had thoroughly explored, without finding any traces of the *Jeannette* expedition, the coast of Wrangel Land, which was found to be an insignificant island, thus disappointing all the theories as to the configuration of the region and the course of the *Jeannette*, the anxiety concerning the safety of the explorers was intensified. Rumors had come of shipwrecked white men seen by natives in different parts of the coast of the Arctic Ocean. The smoke of a steamer was reported to have been seen by Yakuts near the mouth of the Lena River, in September, 1880. A party of white sailors were reported to be making their way up the Mackenzie River, and the Hudson Bay Company was urged to institute a search in that region. A report came later that wandering Samoyeds had found the corpses of two Europeans on the Siberian coast, near the mouth of the Yenisei. Experience of the currents of the Arctic strengthened the conclusion that the *Jeannette* when ice-bound had been carried to the westward instead of eastward. Another conjecture was that De Long had ascended to the pole in sledges, and then made his way either to Smith Sound or

Spitzbergen, the nearest points where he would be likely to fall in with walrus-hunters. There was the possibility also of his reaching a very high latitude in clear water, and then being caught in the ice or prevented from continuing his northward course by the ice-pack. The ship might then be carried to the islands at the entrance of the northwest passage, or upon Grant Land, or the northern coast of Greenland. If there should be found to be an open polar sea, it was conjectured that the *Jeannette* might have sailed clear across the polar basin and have come out on the east coast of Greenland, or the northern shore of Spitzbergen. No polar expedition since the loss of Sir John Franklin's party has caused so much solicitude, and elicited so many efforts for its rescue. During the season of 1881, measures were taken to search every shore of the polar basin for the lost explorers.

Five expeditions were sent into the polar regions by the United States Government in 1881, all of which took instructions to search for the missing Arctic cruiser, one of these having for its sole object the search for the *Jeannette* and the lost whalers, *Mount Wollaston* and *Vigilant*. This was the *Rodgers* expedition, under the command of Lieutenant Berry, which was sent over the same route pursued by the *Jeannette*, in the hope of finding on Wrangel Land records of the expedition and indications of its future movements. At about the same time that the *Rodgers* left San Francisco the *Alliance*, under Commander Wadleigh, sailed from Norfolk for the waters north of Spitzbergen, on the chance of the expedition's having crossed the pole in sledges. The revenue cutter *Corwin*, in command of Captain Hooper, was directed to land on Wrangel Land, if possible, during the summer cruise, to seek for traces of the *Jeannette*. The two government meteorological expeditions to Alaska and to Smith Sound were also instructed to explore the regions near their stations in quest of indications of the fate of the *Jeannette*. Leigh Smith, the English explorer, in his summer's trip to Franz-Josef Land, volunteered to make a special search for the *Jeannette* in that neighborhood, and the Dutch exploring ship *William Barents* also intended searching the coast of Nova Zembla for traces of the expedition.

The special search expedition under Lieutenant Berry was directed, if the researches on Wrangel Land proved fruitless, to repair to the coast of Siberia, and pursue their inquiries along the whole northern shore. At the time when the news of the rescue of part of the *Jeannette*'s crew came, Lieutenant Hovgaard, Nordenskiöld's companion, was planning an expedition over the track he had sailed in the *Vega*, to search the same ground which Berry was to go over later. He concluded, from the report of a steamer having been seen off the mouth of the Lena, together with that of white men found dead by Samoyeds at the

mouth of the Yenisei, that the *Jeannette* had met with disaster off the shore of Asia. His conjecture was that De Long had skirted the ice-fields to the westward until he had made up his mind to make a dash for the pole through the first favorable opening rather than continue on to Franz-Josef Land, where it had already been attempted. Before the *Jeannette* sailed from America, De Long had announced his intention of retreating to the Siberian settlements in case of shipwreck.

The expedition under Lieutenant Berry was sent out after the *Jeannette* and the missing whalers by the Government. An appropriation of \$175,000 was voted by Congress for the purpose. The steam-whaler *Mary* and *Helen* was purchased for \$100,000. She was revamped and fortified at a considerable expense. Among the provisions was a large supply of pemmican, but no spirits except for medicinal use. Under the new name of the *Rodgers* the ship put to sea June 16th. The commanding officer, Robert M. Berry, lieutenant in the navy, is an experienced Arctic voyager who served on the *Tigress* expedition. The first officer and navigator was H. S. Waring; the second officer, Charles F. Putnam. Other members of the expedition were Stoney Hunt, Engineer A. V. Jane, Paymaster W. H. Gilder, and Naval Surgeons J. D. Castillo and M. D. Jones. The crew numbered twenty-six men. The vessel stopped at Petropaulovsk to take on board arctic clothing, dogs, and sledges. According to their instructions, they first made inquiries along the Siberian shore from East Cape to Koliutchin Bay, and then sailed for Wrangel Land. They were directed to winter on the southern coast of Wrangel Land, or, if unable to make a landing, among the *Tchuktches* of Siberia. The instructions were to search particularly along the southern and eastern coast of Wrangel Land, and on Herald Island, for the cairns which De Long had announced that he would leave, or other traces of the *Jeannette*, and the following season to continue the search along the northern shore of Siberia, and then return home. Lieutenant Berry was the first explorer who ever made a landing on Wrangel Land. He established the fact that it is only a small island instead of the southern point of a vast circumpolar continent, as has been supposed by geographers.

Wrangel Land was again visited and more thoroughly explored the same season by the officers of the *Corwin*, who came on the same mission which brought Lieutenant Berry. The revenue cutter *Corwin* is a steamer of 227 tons burden, and capable of a speed of eleven knots an hour. The commander was Captain Hooper, who had with him five officers, three machinists, the surgeon, Dr. Rosse, and thirty men. A naturalist, Muir, of San Francisco, accompanied the expedition, and another, Nelson, joined the expedition at St. Michaels. The *Corwin* succeeded in effecting a landing on Wrangel Land in August.

This hilly Arctic land is constantly encompassed by a fringe of impenetrable ice which has defied all the efforts of former voyagers to approach the shore. The government steamer did not effect a landing until she had cruised along the coast for several days, and then only by cutting her way between the ice-blocks for eight or ten miles. They struck the coast at the mouth of a broad and deep river. No snow remained except some patches upon the mountains. The country was desolate and devoid of life. Polar bears had left many tracks on the beach, but no animals were seen except a few birds. A fox-track was observed, and the burrows of a species of marmot. There were no signs of reindeer or musk-oxen, although there was abundant food for them. There was a scanty growth of mosses, lichens, and angiosperms. About twenty species of plants were counted, most of them in bloom. They are similar to those of the neighboring coasts of Siberia and Alaska. Coal was found, and appears to be present in abundance. The soil is a mixture of sand and clay. The rock is slate and granite, and contains quartz which has the appearance of holding a high percentage of gold.

Whalers in the Arctic Ocean have been caught in a strong current setting to the northeast from Behring Strait. On the chance of the *Jeannette* having been carried by this current to the North American Archipelago, the Arctic colonists on *Lady Franklin Bay* were ordered to search the shores of the islands in the vicinity of their settlement. In case there is an open passage north of Greenland, the missing cruiser might have drifted on this current into the North Atlantic, and have been cast ashore on the northern coast of Spitzbergen or the eastern coast of Greenland. On this contingency the naval steamer *Alliance* was dispatched under Captain Wadleigh to examine those coasts for traces of the *Jeannette*. Provisions in plenty, and a number of whalers and several boats were taken along for safety in case the ship was caught in the ice-pack east of Greenland. The *Alliance* had a scientific mission to perform, as well as the duty of seeking the *Jeannette*. The officers were instructed to carefully determine the limits of the ice-fields between Greenland and Spitzbergen, to record the temperature of the ocean at the surface and at the depth of five fathoms, to take observations of the specific gravity of the water at the depth of ten fathoms, and of the rise of the tides on the coasts of Spitzbergen. The steamer sailed June 16th, and put in during a storm at Reikiavik, Iceland, July 9th. They learned that the winter there had been the severest one recorded since 1610. The Arctic ice still approached to within thirty miles of the north coast. Reports of the extreme rigor of the winter of 1880-'81 from other parts of the Arctic regions increased the general anxiety as to the fate of the *Jeannette's* party. In parts of the coast of Hudson Bay the cold

was reported to have been of unprecedented intensity, and was said to have been unusually severe also at different points in Siberia.

The system of international polar stations for scientific observations, which has at last been inaugurated, was the outcome of the Austrian Arctic expedition, and was first proposed by the late Lieutenant Karl Weyprecht, of the *Tegethoff*. The plan was elaborated and the way prepared for its realization at the International Polar Conferences at Rome in 1878, at Hamburg in 1879, and at Berne in 1880. At the second of these conferences the representatives of Russia promised that their government would establish two stations, one at the mouth of the Lena and one on New Siberia Island; Norway agreed to maintain one at North Cape; Sweden one on Spitzbergen; Holland one at the mouth of the Gulf of Obi; Austria one on Nova Zembla; and Denmark one at Upernavik. The United States was expected to establish one at Point Barrow, and perhaps another at some point in the North American Archipelago; and Germany was solicited to establish a station on Jan Mayen. In 1880 Congress made an appropriation for the establishment of a polar colony, which was carried into effect in 1881. Lieutenant A. W. Greely, of the United States Army, was placed in command of the expedition. The place selected for the station was on Lady Franklin Bay, at the point where the Nares expedition had discovered a bed of coal. They were directed to build houses and observatories, and to remain until the summer of 1883. A sledge-party was to visit the elevated land near Cape Joseph Henry. Lieutenant Greely was qualified for conducting the meteorological observations by twelve years' experience in the Signal Service. Lieutenants Frederick F. Kilgobury and James B. Lockwood, his assistants, are army officers used to frontier service and privations. There were fifteen men selected from different regiments of the army and five subordinate officers of the Signal Corps. It was intended to send a vessel with supplies to the permanent colony in 1882 and 1883. The methods of taking and recording meteorological, tidal, magnetic, pendulum, and other observations, were settled upon at the Hamburg Conference. The collection of specimens of minerals, animals, and plants is to be pursued with particular attention. The expedition before ascending Smith Sound stopped at various places to obtain Esquimaux hunters, dogs, Arctic clothing, and all the necessities for extended sledge-journeys. The party were instructed to supplement their proper tasks with sledging-excursions in search of traces of the *Jeannette*, on the chance of her having been driven upon the Parry Islands or into their neighborhood. The party were conveyed up Smith Sound and landed at Lady Franklin Bay, August 11th. Dr. Pavy joined them at Disco.

Another international polar station has been

established by the Government at Point Barrow, in Alaska. This expedition, commanded by Lieutenant P. H. Ray, will remain out until the summer of 1884. Lieutenant Ray has for his assistants Dr. G. S. Oldmixon as surgeon; A. C. Dark, of the Coast Survey, as astronomer and observer of magnetic phenomena; Captain E. P. Herendcen as interpreter and commissary officer; and Sergeants J. Cassidy, J. Murdoch, and M. Smith, of the Signal Service Corps. The expedition sailed from San Francisco, July 18th, in the schooner *Golden Fleece*. The party will make natural history collections, and survey the neighboring country, in addition to the meteorological, magnetic, and other investigations into the physical conditions of the frigid zone, in which the regulations adopted at the Hamburg Conference will be followed.

The third polar conference met at St. Petersburg, August 1, 1881. Assurances were given of the establishment of the following observing-stations: one at Upernavik, on the part of Denmark; one at Bosskopen, in Finmark, by Norway; one on the Island of Jan Mayen, by the Government of Austro-Hungary, to be directed by Lieutenant Wohlgemuth, of the Austrian Navy; one, under the direction of Pilot Jürgens, at the mouth of the Lena, and another in Nova Zembla, by the Russian Government; one on Mossel Bay, in Spitzbergen, by Sweden, placed in charge of Captain Malmberg; and the two United States stations on Lady Franklin Bay and at Point Barrow. Besides the above, a station will probably be established by England at some point in British North America, and one by France at Cape Horn.

Leigh Smith sailed in his yacht, the *Eira*, in the early summer, bound for Franz-Josef Land, where he purposed continuing his explorations. On the 8th of July the *Eira* was seen off the west coast of Nova Zembla steering north, from which date up to the end of the year nothing further was heard from her, although her master had made no provision for wintering in the north. Leigh Smith has won the name of a courageous Arctic voyager. His most useful contribution to geographical knowledge was the tracing of a long strip of the unknown coast-line of Franz-Josef Land. The *Eira* is a steam-yacht of 360 tons burden which he had built expressly for Arctic cruising. He was accompanied on his present voyage by Dr. Neale, surgeon, and a crew of twenty-three men. All of Leigh Smith's five or six expeditions into the Arctic regions have been conducted entirely at his own expense. His exploration of 110 miles of new coast-line in Franz-Josef Land was the most important discovery recently achieved by private enterprise alone.

The conclusion reached by W. H. Dall, of the United States Coast Survey, in his long and careful investigation on board the *Yukon* of the hydrographic conditions of Behring Strait, is that the current flowing in from the Pacific

through that channel has no appreciable influence on the temperature of the Arctic Ocean. The polar basin has an area of considerably more than 150,000 geographical square miles, and a depth averaging, according to present data, not quite twenty-eight fathoms. At a moderate estimate one half of the water is frozen at the beginning of summer. The maximum swiftness of the current through Behring Strait observed was one foot a second, and the highest temperature 8.9° C., while the average temperature is 5.8° C. The total effect of a constant current at the highest temperature noted would melt only about 8 per cent of the polar ice. The time during which the current passes freely through the strait is only ninety days in the year. The current through Behring Strait does not flow constantly northward, into the Arctic. If the set of the current is taken to be northward for two thirds of the year, and it is supposed to flow at the maximum swiftness, at the average temperature observed in Behring Strait, the total effect of the volume of warmer water flowing in through the strait would be to melt only 3.4 per cent of the ice in the Arctic basin, that is, to clear an area of about half the extent of Kotzebue Sound; and when the loss of heat by return currents and radiation into the air are taken into consideration, the influence of the current from Behring Sea into the Arctic Ocean must be insignificant. If the comparative size of the channel of Behring Strait and of the polar basin were duly considered, no theories would be built up which depend on the influx of warm water from the Pacific. If the polar basin were empty, it would require eight and a half months to fill it again through Behring Strait. The Kuro-Siwo has been supposed to divide at the Aleutes, one portion recurving and descending along the American shore, and another pouring into Behring Sea, and sending a stream of warm water into the Arctic. Dall denies that a branch of the Pacific Gulf Stream enters Behring Sea, between Kamchatka and the Aleutian Islands, or by any other channel. The Kuro-Siwo is very different from the Atlantic Gulf Stream; its volume is much smaller, and it is subject to extreme variations, which seem to be caused by the monsoons. The prevailing movement of the waters of Behring Sea is a flow of cold water to the southward. The surface layer has a general motion in the contrary direction, when not interrupted by winds, but neither in volume, in swiftness, nor in constancy is this flow strong enough to be considered an ocean-current. The surface-currents of Behring Sea are produced by or depend principally upon the winds, the influx of fresh-water streams, the steady southward drift of the cold water, the distribution of the floating ice-masses, and the northward movement of the warmer surface-water; the activity of these several factors is indicated by the order of this enumeration. No warm current flows through Behring Strait from Behring Sea ex-

cept such as are composed of water from the inflowing rivers and neighboring sounds, which owe their warmth to the direct action of the sun's rays. The strait would not be large enough to let through a current of warm water sufficient in volume to exercise an appreciable influence on the portion of the polar basin lying north of it. The currents flowing through the strait are cold. They are mostly tidal currents, though their main tendency is to flow northward. The currents in the Arctic Sea north of Behring Strait are particularly subject to the influence of the winds, but tend to move in certain known lines of direction. The knowledge which we have of these up to the present gives no encouragement to the hope that through their action a navigable route to the pole or a passage to the northward for any distance is created. Not a single fact was discovered in the whole investigation in support of the popular but unscientific supposition that there are extensive areas of open water within the polar basin.

Dr. Pelligrino Manteucci, a young Italian traveler, who had already distinguished himself by explorations in the Soodan, traversed the continent of Africa diagonally from Suakim on the Red Sea to the mouth of the Niger, emerging with his companion, Massari, at the west coast in July. Manteucci and Lieutenant Massari were chosen by Prince Giovanni Borghese to accompany him on an intended journey to the little known and inhospitable Mohammedan kingdoms of the inner Soodan. The party set out from Cairo in February, 1880, for Suakim, and crossed the desert to Khartoom. They then traversed the sandy plains of Kordofan on camels. They traveled often at night, when they were safer from the attacks of robbers, and escaped the intense heat of the sun. They suffered much from want of water before reaching their destination, El Obeid, the capital of Kordofan. This city is the emporium of the trade in gum and ostrich-feathers. There are many Arab traders, but no Europeans resident there. At El Fasher, the capital of Darfour, the authority of the Egyptian Government, which had assisted and protected the travelers thus far, reaches its limit. In this town, which contains 10,000 inhabitants, they remained a long time, treating with the Sultan of Wadai through messengers, until they began to despair of gaining his leave to traverse his dominions. Here Prince Borghese, yielding to the solicitous messages from his family, left the party and returned to Italy. As soon as they obtained the coveted permission to cross Wadai and visit its capital, Abeshir, they advanced into the strange land by the same route which Nachtigal had traveled. The Sultan of Wadai is possessed with the belief that he will die at the hands of a Turk, and as all light-hued people are counted Turks by him, he rigidly excludes Europeans from his kingdom. Manteucci persuaded the superstitious potentate that they could neither of them be his predicted slayer,

as they were come from a powerful kingdom far away, whose monarch had sent to him magnificent presents, of which they were the bearers. They entered the dominions of the Sultan of Wadai in November; he declared that he would be responsible for their safety, and sent his son and his brother to meet them.

Wadai, which has never been examined at ease by any European traveler before, includes the states of Baghirmi and Dar Ranga in the south, extending on the north to the edge of the desert. Its western boundary is the Bornoo frontier, and its eastern an indefinite line through a district inhabited by Kanem tribes. The chief products and exports of Wadai are ivory and ostrich-feathers. The country is rich in camels and horses. The western portions, however, are sterile and waterless.

After crossing Wadai they traversed Baghirmi, Bornoo, and Sokoto, visiting Lake Tchad. From the city of Kano-Nupe they crossed to the Niger, and descended the river to the Gulf of Guinea. This journey cost the young traveler Manteucci his life. He had already distinguished himself on perilous expeditions in the Soodan. After his arrival in London he died of a wasting African fever.

Before the successful and courageous accomplishment of Dr. Lenz's expedition from Morocco to Timbuctoo no scientifically trained explorer had ever traversed the vast region lying between Barth's route through Rhat and Air and the Atlantic. The only knowledge we possessed of the whole western half of the Sahara was derived from the itineraries of a number of uninstructed travelers. Dr. Lenz set out on his arduous journey from Tangier in November, 1879, and, notwithstanding many delays and trying difficulties, reached Timbuctoo in July, 1880. He made his way to the coast from there by way of the Senegal, arriving at St. Louis in the following November. The adventures which befell him at the outset of his journey are referred to in the "Annual Cyclopædia" for 1880. He did not leave the city of Morocco till March 6th. In order to travel more safely, he assumed the character of a Turkish physician, and was accompanied by Sidi Hadj Ali, a relative of the famous Abd el Kader, whose presence afforded him security among the fanatical robber bands of Howara Arabs who scour the country on the farther side of the Atlas Mountains up to the very gates of Terodant. The Atlas range is composed of three parallel chains in which the strata of the tertiary and cretaceous periods mark the date of their elevation. The highest summit is the snow-covered Mount Miltzin, 3,461 metres in height. He remained several days at Sidi Heschem to purchase camels and fit out the caravan, and then crossed the Anti-Atlas. This range, which does not rise above 1,500 metres, is of palæozoic formation. On the farther side of the mountains the village Tisgi was found beautifully situated among springs and date-palms. On a neighboring

hill are ruins which are said to be of Roman origin. The extent of the traffic between these border-lands of Morocco and Timbuctoo, and the importance of the mart Tenduf, have been reported by the Rabbi Mordochai and others. Thither Lenz's modest caravan was next conducted. They found a prettily situated, young, and growing commercial town. More camels were procured, a guide engaged, and the final preparations for the long march through the Sahara were concluded. Four days out from Tenduf they entered the sandy desert, which was not, however, devoid of all life, for here and there were patches of vegetation, affording forage for the camels, and occasionally gazelles and antelopes were seen. On the 18th of May there was even a fall of rain. The course of the march was due southeast from Tenduf to Taodenni, and then about southerly to Timbuctoo. Not far from Tenduf they entered a wide stretch of hard and rocky ground, almost destitute of water. In thirty-one days they passed only four wells. This description of surface, hard, arid, and free from shifting sands, is called *hammada*. They next passed through a zone of *aregs*, or sand-dunes, before reaching the salt-beds of Taodenni. The hills of sand, heaped up by the wind, were exceedingly difficult to cross. The temperature was agreeable for night-marches, the mean not exceeding 34° or 36° C., and cool northwest winds prevailing. The latter fact militates against the theory of the formation of the desert by the constant passage of currents of dry air from the northeast. The other theory, that the Sahara formed the bottom of a sea in recent geological time, is considered unfounded by Lenz, who ascribes the accumulation of sand mainly to the erosion of the mountains, which is still going on over the vast surface of the *hammada* plains. The fact that the fossils contained in the rocks here are of fresh-water animals proves that the sand was not formed by marine action, and that this portion of the Sahara is not, as has been supposed, the elevated bed of a tertiary sea. The phenomenon of singing sand was heard. This is supposed by Lenz to be the effect of friction upon the heated quartz-grains. The aspect of the Sahara is varied, plains of sand succeeding rocky ground, with occasional oases covered with *alfa*, containing stagnant or shallow pools of water. The barometric observations of Dr. Lenz put an end to the adventurous scheme for the inundation of the western Sahara. No part of the desert was found to lie below the ocean-level. The average elevation was from 250 to 300 metres. The region about Taodenni forms a depression in which in one spot, at Wady Telli, an elevation of only 148 metres was measured. They did not venture to visit Taodenni and its salt-mines, making a *détour* to the eastward which brought them to the interesting Wady Telli. The walls of this ancient town were made of rock-salt and clay. Implements of the stone age made from diorite

are found here in such quantities that they are an article of commerce, being sent as far as Timbuctoo, where they are used as kitchen utensils. South of Taodenni sand and *hammada* alternate, until a stretch of sand-dunes was reached near Arawan. Here the prevailing winds come from the south. Arawan is, as formerly, the point where the caravan-traffic between Timbuctoo and the north centers. Here the effects of the unfortunate Major Laing are said to be still preserved, but his papers were sent forward before his death and are supposed to have arrived in Ghadames. He was murdered while mounting his camel to depart. The motive, according to one tradition, was jealousy; according to another, revenge for the death of a magnate whom he had treated medically. Lenz was obliged to pay toll to the chief who resides at Arawan. A day's journey south of that station they entered a belt covered with a mimosa-growth which extends as far as Timbuctoo and to the west of it.

Lenz was received kindly in Timbuctoo, in contrast with the treatment which Barth received, who was detained seven months, in constant fear for his life. Lenz remained about a week, the guest of the head magistrate. The Fullani and Tuaregs, who compose the population, continue to show the same jealousy and enmity toward each other which divided them in Barth's time; but with this change in the situation, that while the Sheik el Bakay was then upheld by the Tuaregs, his son and successor, Abadin, is supported by the Fullani. Lenz, like his predecessor, was drawn into interminable arguments over the Koran with the aristocracy of the town. The size of Timbuctoo and the extent of its trade, however exaggerated, must have been greater in former ages, as is indicated by the number of unoccupied and ruined dwellings. Its circumference is fully five miles. It seems now, however, to be again growing in population, since Lenz reports the number of inhabitants, which was estimated by Barth at 13,000, and by Caillié at 10,000 to 12,000, as about 20,000. Timbuctoo is still the chief slave-mart of the Western Soodan. In its suburbs are large numbers of unoccupied huts in which the caravans take up their quarters and store their merchandise, consisting of slaves, dates, ivory, gold-dust, rubber, and ostrich-feathers. The houses of Timbuctoo are built entirely of brick. They are low, but roomy. The city supports numerous schools and possesses rich libraries. There are three mosques, surmounted by picturesque minarets. Timbuctoo is still the center in which the commercial exchanges between the Western Soodan and the Niger regions on the one hand and the Sahara and Mediterranean lands on the other are conducted. Apart from the slave-trade the exports from the southern countries are inconsiderable. The slave-trade is itself much smaller than in former times, owing chiefly to the declining

wealth and purchasing power of the Mohamadan nations bordering the Mediterranean. Timbuctoo does not lie directly upon the Niger, but has water communication with its port, Kabara, through a number of little lakes and a natural canal which connects them.

Instead of ascending the Niger, Lenz made his way across the country through the populous lands of the Massina and Bambarra to the Senegal, which he struck near the French station Medine. The country between Timbuctoo and the Senegal consists of a plateau with an average elevation above the sea-level of 320 metres. The climate of the Soodan presented an unpleasant contrast to the wholesome airs of the Sahara; although Lenz retained his strength, the Arab members of his company fell sick, and it was with joy that they finally reached the edge of the plateau and descended into the valley of the Senegal. At Basikunnu the caravan was attacked by a band of Arab robbers, who desisted from their predatory designs, the chief even serving them as guide, after the sheriff had disclosed his sacred character of a descendant of the Prophet. At Basikunnu the camels were exchanged for oxen, and the expedition proceeded, first southward to Sokolo, otherwise called Kala, in Bambarra land, and then westward. Sokolo is a town of 10,000 inhabitants, subject to Ahmadu, Sultan of Segou, whose family exercises a suzerainty over this whole region. They next came to the large double town of Gumbu, containing 30,000 inhabitants, mostly Arabs. Farther on, at Nioro, all their possessions were taken from them; but the way was not long from there through Kuniakary to Medine, where the traveler was cordially received by the French commandant.

Savorgnan de Brazza, the determined pioneer of exploration on the upper Ogowé, has passed nearly two years more in the examination of the same region and in the establishment of stations and opening of commercial intercourse with the interior in the commission of the French branch of the International African Association. He arrived at the Gaboon in December, 1879, and conducted his expedition up the Ogowé to choose the site of the station which he came to establish. He founded the post at the mouth of the river Bassa, which enters the Ogowé on the left bank, giving it the name of Franceville. Leaving this camp in July, 1880, he crossed to the river Alima, the tributary of the Congo, which he had discovered on his previous visit with Ballay. The plateau of the Batékés, 2,600 feet above the sea, situated between the Alima and the Mpaka, is a fertile region inhabited by peaceful tribes subject to Maskoko, ruler of the warlike Ubangis, the Apfuru people who hotly contested Stanley's passage down the Congo. Brazza descended the Lefini, Stanley's Lawson River, to Pulobos, in the heart of their country, determined to obtain the friendship of this tribe, although he had been received

with manifestations of hostility upon his previous expedition. He succeeded in striking a treaty of peace with Maskoko, and obtained by purchase the cession of a strip of land, called Méuma, on the bank of the Congo, not far from Stanley Pool. On this territory he established a second French station, to which the name of Brazzaville has since been given. The country between the two stations is open and salubrious. It is expected that this will become an outlet route for many of the rich products of the Congo Valley. The traveler descended the Congo to Stanley's advanced post, about twenty-five miles above Vivi. The physical difficulties in the way of Stanley's enterprise of building roads around the cataracts seem to him insuperable. Mountain-chains, 6,500 to 10,000 feet in height, cross the course of the river, and numerous affluents enter it through deep ravines. In addition to these obstacles, the banks of the Congo here are peopled with bellicose tribes. De Brazza proceeded by sea to the Gaboon, and started again for Franceville. With Dr. Ballay he intends to descend the Alima in a steam-launch and thoroughly explore the Congo Valley.

When De Brazza ascended the Ogowé he was accompanied by Père Delorme, whose object was to select a spot for a mission-station. The latter paid considerable attention to the ethnographical conditions of the country. On the lower course of the river some Orungu villages are met with, inhabited by the Nkomis and Camas. The country here lies very low, and, being inundated during the great rains, is unhealthy. Farther up the river the country becomes more and more open, pleasanter, and higher above water-level; while the mangrove thickets disappear, and are replaced by forest-trees, including the date and other palms. After the Nkomis and Camas come the Galois, Eningas, and Adyombas. These tribes speak the same language that is used on the Gaboon. They are all very superstitious, but not fanatical, like the people about Cape Lopez. One hundred and ten miles up the river are found the Bakalais, who are being driven away by the numerous Pahuins; between the latter, occupying the right bank of the river, and the former, occupying the left bank, there is continual war. Père Delorme says that the Pahuins will here, as they have in the Commi country and on the Rembo, end by remaining masters of the region. They are not enervated by vice, and have no slaves nor human sacrifices. After passing these tribes the rapids are reached, rendering navigation very difficult and dangerous. Above these the river again becomes navigable, and different tribes are met with along the banks, such as the Okandas, Oshébas, Adumas, Ondumas, and others.

The cession of the greater part of his territory by the Sultan of Sulu to the British North Borneo Company, and the recently ventilated schemes of not only rendering the rich province commercially tributary, but erecting there

a political dependency and naval base for Great Britain, have drawn attention to this slightly known, but to ethnologists and naturalists exceedingly interesting island. The North Borneo Company obtained concessions originally granted by the potentates of Sulu and Brunei to an American company in 1865. The American adventurers not caring to continue the enterprise, they were bought out, in 1877, by an Englishman prominent in the Hong Kong trade, who associated with himself a number of other Englishmen, and in 1881 obtained a charter from the British Parliament. Not only the Dutch regarded the extension of British protection to the adventure with suspicion, as the Spanish Government claims prior rights and concessions in the same territory, and the Spanish Legislature has protested against the British protectorate. The natural products of Borneo are so numerous and abundant, and many of them so peculiar to the country as well as valuable, that it appears in prospect one of the richest regions of the globe. The Dutch Government claims the political control over the whole island, to the extent of prohibiting annexations by other powers. The only British settlement is on the small island of Labuan. The native state of Sarawak, comprising about 25,000 square miles of territory, with a population of 240,000 souls, was organized by Rajah Sir James Brooke, and has made considerable advances toward civilization and good government, a result which is due to his method of developing the country by native means under the guidance of European intelligence. This little nation has maintained its independence for forty years, in spite of the fears of its founder. With a yearly revenue of \$200,000, a sufficient military force is kept up to garrison fourteen forts, three gunboats are maintained, a competent staff of European officers and native authorities are paid, commerce and agriculture are protected, and security to life and property everywhere insured. The adjacent dominion of Brunei, comprising the coast-region of Northern Borneo between Sarawak and the northern end of the island, has been ceded to the North Borneo Company. The people of Brunei are sadly misgoverned and oppressed by the exactions of petty princes. The dominion of Sulu extends from Celebes Sea on the east to the range of mountains separating it from Brunei on the northwest. All the rest of the island, about three quarters of its entire surface, is claimed as Dutch territory. The central parts of Borneo are unexplored. Nearly all the large rivers rise near the center of the island, where there is, according to native reports, a very lofty mountain called Tibang. In this region rise the Bulongan and the Kutei, which empty on the east coast; probably the Kina Batangau, a fine river which flows through the territory granted to the North Borneo Company, and empties in a bay on the northeast coast; the Barito, or Banjer Massin, which flows to the

southward; and the Kapuas and Rejang, flowing westward. The highest known mountain is Kina Balu, in the North Borneo Company's territory, which has an altitude of 13,698 feet. There are several which rise to from 6,000 to 8,000 feet above the sea-level. The range of mountains which is set down on the map, running from the northeast to the southwest extremities of the island, has a number of breaks. There are several lakes in Borneo, but the one marked on the map as the largest, and called Kina Balu, probably has no existence. The inundation of the country in the rainy season may have given rise to the report of such a lake. All the lakes undergo remarkable variations in size and elevation between the rainy and the dry seasons. Borneo may be considered the home of the sago-palm, which flourishes only here and on the coasts of Sumatra, Celebes, New Guinea, and the Moluccas. The territory of Sarawak furnishes alone more than half the sago consumed in the world. William M. Crocker, the British Resident of Sarawak, who lived some time among the Milanows, a peculiar tribe in the northern part of that dominion, which has grown rich by the cultivation of the sago, has published interesting notes concerning them. They are of the same stock as the tribes of the interior, who still live in the lowest condition of savagery; but they were early visited by Malays for the purposes of trade, and have adopted the Malay dress, and many of them the Mohammedan religion. They have squarer features than the other tribes of the country. They are perhaps the only people in these islands who flatten the heads of their children. They formerly lived in great dread of pirates and of the head-taking sea Dyaks, and built their houses on high posts, but now they are efficiently protected by the government. They still keep a few skulls in their houses, but have abandoned the barbarous custom of capturing heads. Their skin is very light, having a sickly, milky-white appearance. The men are of medium stature. They are gentle and peaceable in disposition. Like the Dyaks, they are superstitious, and believe in dreams and omens. Their religion, or belief in evil spirits, greatly resembles that of the Cochin-Chinese. Gold is found in different parts of Sarawak. From the middle division of this country gutta-percha and rattans are largely exported, and considerable quantities of bilian timber, or iron-wood, are sent to China. The lower division, or Sarawak proper, is rich in minerals. Gold is worked by Chinese, and diamonds by Malays; but the principal products are antimony and quicksilver, the monopoly of which is given to the Borneo Company. Between 1859 and 1879, 25,000 tons of antimony were exported, valued at over \$1,000,000, and between 1870 and 1879 15,000 flasks of quicksilver, value \$717,500. Gambier and pepper are now being successfully cultivated, and an influx of Chinese capital and labor is expected. Turtle-eggs, and the roes of the trobok-fish,

which are esteemed a delicacy in China, are among the exports of Sarawak; rice is extensively grown and exported from some districts. There are several settlements of Chinese and a considerable population of Malays, besides the sea Dyaks, many of whom have become semi-civilized, mild, and peaceable.

Dr. Montano, during a scientific journey in Malaysia and the Philippine Islands in company with Dr. Paul Rey, visited North Borneo, landing at Elopura, on Sandakan Bay, where the North Borneo Company have a small station. He ascended the Sagaliud River, which empties into that bay, to study in one of their villages the Buli Dupis, a previously undescribed race, differing essentially in its anthropological characteristics from the Malays. The village was a group of only ten huts in a clearing surrounded by dense forests. The Buli Dupis have features of a much higher type than the surrounding Malays and Suluans, and, where they are not modified by cross-breeding, closely approaching the European standard. They are not inferior to the other tribes in any respect, but the race seems to be diminishing in numbers. According to their tradition, they came originally from an island called Kamiguil, which is supposed to lie to the east of Sandakan. They take their name, Orang Buli Dupi (men of Dupi Mountain), they say, from a peculiar kind of tree called *dupi*, which grows on the hills of their island. They were formerly very numerous, and were scattered over many parts of the coast of Borneo, but now are found only at Sagaliud, at Labuk, west of Sandakan, and at some points on the river Kino Batangan. Their language differs materially from those of the Malays and Suluans.

The great peaks of the Andes in Ecuador have been more thoroughly and more intelligently explored than they ever were before, by Edward Whymper, an Englishman, who had already won celebrity as the most successful of Alpine climbers. One of the objects of his researches was to observe the physiological effects of the atmosphere at great elevations, and the possibility of living on the summits of the highest mountains of the globe. By remaining a considerable time at elevations of from 16,000 to 18,000 feet, until they felt no inconvenience from the rarefied air there, which was at first utterly insupportable, Whymper and his party were able to ascend to the height of 19,000 feet and pass twenty-six hours there without experiencing any ill effects. He concluded that he could have mounted several thousand feet higher, but is not convinced that explorers could breathe the air at elevations of 24,000 feet or higher for any length of time, or that the human system can adapt itself to the diminished pressure, which, at such altitudes, is one third of that at the level of the sea. Another subject investigated was the working of aneroid compared with mercurial barometers at great elevations. His experiments led him to the conclusion that calculations of altitude

based upon the boiling-point of water are altogether untrustworthy in lofty mountain-regions. Whymper was accompanied by two tried Italian-Swiss mountain-guides, the brothers Carrel. He first ascended Chimborazo and explored its neighborhood, then ascended Corazon, situated west of the town of Machachi, and attempted to ascend Illiniza from the south. With his two assistants he mounted to the summit of Cotopaxi, remaining twenty-six hours on the top. From Quito they ascended Antisana, which summit they failed to reach in the first attempt, but succeeded on another trial. Two of the peaks of Pichincha were explored, and then they departed for the north and examined the great mountain Cayambe, ascended the little-known peak of Sara-ureu, the most arduous ascent of all, and Cotocachi, the dominating peak of this district. Whymper proceeded farther north to the towns of Ibarri and Carranqui, sending his Italian guides to seek a path to the summit of Illiniza, in which they were successful. Whymper was broken down by his exertions, and remained some time at Quito. When he recovered he proceeded south, making an excursion to Altar without being able to see its summit, ascending Carihuairazo, and passing around the western side of Chimborazo, of which peak he made a second ascent. He returned to Guayaquil through Guamote and the pass called the Bridge of Chimbo.

The coast-region of Ecuador is low and flat, a great part of the country being submerged in the rainy season. It is reticulated by a confused net-work of rivers and lagoons connecting with one another. The slopes of the Andes are excessively steep, and are covered by a dense growth of gigantic trees festooned with parasitic creepers, and at their feet a mass of tangled undergrowth. There is an outer chain of mountains, not down on the maps, though extending 40 miles north and south and rising to the height of 15,000 feet. Beyond this is the main ridge of the Andes, which culminates in the peak of Chimborazo. The river Chimbo flows through the valley inclosed between the two ranges. The Andes south of Chimborazo have an average elevation of about 15,000 feet, and contain several smaller peaks, all of about the same size. There are few passes, the lowest one being perhaps the Bridge of Chimbo, which has an elevation of 12,000 feet above the sea. North of this the most frequently used pass is that of the road from Quito, which leads across the sandy plain called the Arenal Grande; this is about 14,000 feet in elevation. North of this pass rises the great mass of Chimborazo, which is separated by a depression on its northern side from Carihuairazo, a mountain with several peaks, the highest of which is nearly 17,000 feet in altitude. North of this mountain the range sinks abruptly to the basin in which is situated the town of Ambato, where the climate is temperate and agreeable. No important mountains are found to the west

of this place, nor for 30 miles to the north, until Illiniza is reached, which rises above 17,000 feet. In the next 35 miles to the north, and almost in a line with Illiniza, are the isolated peaks of Corazon, Atacatzo, and Pichincha. The depressions between them are never so low as 10,000 feet. North of Pichincha is another break in the range, formed by the valley of the river Guallabamba, which at one point has an elevation of only 5,600 feet above the sea. Then comes the mountain Mojanda, which does not rise to the snow-line, but covers more ground than any other mountain in Ecuador. North of this are the two large mountains Imbabura and Cotocachi, and then the basin of Ibarra, which is not much over 7,000 feet above the plane of the ocean, beyond which the elevation of the range increases. On the southeast is the great mountain of Cayambe, which is covered with 5,000 feet of snow and glacier, and farther on a glacier-bearing mountain called Sara-ureu. South of this there is no lofty summit until Antisana is reached, though the general elevation of the country is probably as great as 13,000 feet. This mountain covers a large area, and contains as much snow and ice as Cayambe. On the south no lofty mountains were seen, but on the west, in the same group with the peaks of Illiniza, Corazon, Atacatzo, and Cotopaxi, are Pascochoa and Ruminahui, comparatively low, but steep and well-defined in shape, and Sincholagua, a fine, sharp peak. South of this is Cotopaxi, the second in height of the mountains of Ecuador. A considerable distance beyond is the snow-clad and very regularly formed summit of Tunguragua, over 16,000 feet high. Farther to the southward comes the basin of Riobamba, on the eastern border of which rises the extinct volcano Altar. Around the crater of Altar are magnificent needle-like pinnacles. South of here the country is of moderate elevation. Far to the southeast is visible the active volcano Sangai, which is but little smaller than Altar. The French explorers of the last century and Alexander von Humboldt are responsible for a serious error respecting the physical configuration of this region. The two parallel chains, set down on the maps as the western and eastern Cordillera, have no existence. The distribution of the mountains in Ecuador does not even show how such a misconception ever arose. The eastern part of Ecuador, where the Andes descend in undulations to the plains of Brazil, is an unknown region.

All the great Andes of Ecuador have been volcanoes. There are only two volcanoes in Ecuador which may be properly called active. These are Sangai and Cotopaxi, which are seldom at rest. Two others, Pichincha and Tunguragua, give occasional signs of life.

Sangai has been seen by but very few persons. Whymper caught a glimpse of it but once, when encamped on Chimborazo at a height of 17,300 feet, though he frequently

heard its detonations, which were very distinct and startling. It presented the appearance of a regular cone, though less stately and symmetrical than Cotopaxi. It has large beds of snow on its summit, but above them its apex is black, and seems to be formed of slopes of fine ashes. At intervals of twenty to thirty minutes there were discharges of jets of steam which shot up 4,000 or 5,000 feet in the air, and then spread out and drifted away on the wind. No detonations were heard on Chimborazo, but at Guaranda, 9,000 feet lower, they were loud and clear. Cotopaxi emitted smoke and steam constantly. At the distance of 65 miles Whymper witnessed one violent eruption of ashes, which were projected 20,000 feet into the air, and produced the effect of twilight at that distance, although it was noonday. The most dangerous element in the eruptions of Cotopaxi is the floods of water which rush down its sides. The Ecuadorians believe that the water pours out of the crater; but Whymper explains the phenomenon by the melting of the large glaciers (which are not visible, being covered over with ash) by the heated cone. It has been erroneously stated that glaciers do not form on the Ecuadorian Andes, but Whymper found extensive ones on all the high mountains. They do not usually descend lower than 14,000 or 15,000 feet. The traveler did not experience the terrific winds of the Andes of which much has been written, and is inclined to believe that the force of the wind is very much less than would ordinarily be supposed. The astounding reports of the thunder-storms of the equatorial Andes are not exaggerated. The air seems saturated with electricity, and discharges are constantly heard, the whole sky being filled with flashing bolts. Whymper describes his experience of one of these thunder-storms as follows: "I shall never forget the occasion when on the top of Sincholagua and close to the summit, on a narrow ridge of icy snow in which we were cutting footsteps, a ridge so steep and narrow that the merest touch might have tumbled us over on one or the other side, we were surprised by a storm, which commenced without premonition, and in a few seconds raged above, below, and around us, with a fury which made us quiver, and maintained a ceaseless roll, as flash after flash darted across our ridge, and others struck, or appeared to strike, the rock pinnacles beneath us. With our axe-heads hissing, and not knowing whether it was more dangerous to go down or up, we at length went forward, snatched a few rocks from the immediate top, and then fled, scarcely daring to look behind, and escaped in safety, though astonished to find ourselves alive."

The following table contains a list of the peaks ascended by Whymper, the date of the ascents, the temperature at the summits, and the absolute altitude of the mountains, as determined by him, compared with the determinations of Drs. Reiss and Stübel:

DATE.	Mountain.	Temperature.	Whymper.	Reiss and Stübel.
			Fahr. Feet.	Feet.
January 4, 1880.	Chimborazo.....	21°	20,517	20,708
February 2, "	Corazon	37° to 43°	15,871	15,801
" 18, "	Cotopaxi	13 " 21	19,550	19,498
" 23, "	Sincholagua.....	.....	.....	16,365
March 10, "	Antisana	44° to 60°	19,260	18,885
" 23, "	Pichincha.....	46	15,918	15,706
April 4, "	Cayambe.....	32 " 41	19,200	19,161
" 17, "	Sara-ureu.....	43 " 55	15,500	.....
" 24, "	Cotocachi.....	36	16,289	16,293
June 29, "	Carhuairazo.....	88 " 42	16,480	16,752
July 3, "	Chimborazo.....	15 " 20	.....	.....

The latest observations establish the fact that the highest mountain of the globe is Gaurisankar, of the Himalayas, which rises 8,840 metres above the sea. The five next highest belong also to Asiatic orography. The seventh highest mountain and the six following it in order are found in South America. The highest has an altitude of 7,010 metres. In Africa is found the fourteenth in rank, Kilima-N'daro, 5,705 metres. In North America, Popocatepetl, in Mexico, has a height of 5,410 metres. The highest mountain in Europe, Mont-Blanc, is 4,810 metres, and Mount Ophir, in Oceania, 4,222 metres in height. The highest pass in the world is Sanghi-Davan, in Asia (6,685 metres). The highest inhabited place is Kursok, also in Asia, which is situated at an altitude of over 4,000 metres.

The exploration of the Beni and other rivers of Bolivia and the wide region of unknown country through which they wind, in which labor the late Professor Orton lost his life, has since his death been continued by Dr. Edwin R. Heath. He started September 27, 1880, on a canoe-voyage down the Beni from Cabinas, a rubber-camp on the Madidi, which enters the Beni from the left. He discovered a new affluent of the Beni from the south, on October 8th, and on the same day he reached the confluence of the Beni and Madre de Dios. The breadth of the Madre de Dios is about 735 feet, and that of the Beni at this point 2,350 feet. A little below he passed the mouth of an unknown river, of about the size of the Yacuma, entering the Beni from the north. He passed a number of large islands, and farther on came to some rapids and a cataract 80 feet high. Other rapids were encountered farther down, and on the 11th of October he reached the junction of the Mamoré with the Beni. He ascended the latter river in his canoe for 300 miles to Exaltacion and Santa Ana, and thence crossed the pampas to Reyes. The cannibal Pacavara Indians have been supposed to inhabit the banks of the Beni in great numbers, and India-rubber traders have on that account avoided using this natural highway. They have taken their merchandise instead 200 miles up the river to Reyes and then 200 miles across the pampas to the Mamoré. Dr. Heath encountered only four families of Pacavaras on the Beni, from the confluence of the Madidi to its mouth. With the exception of the party conducted by

F. Maldonado, a Peruvian traveler, who with three of his companions was drowned in the rapids, in 1861, Dr. Heath was the first white man to behold the mouth of the Madre de Dios.

Lieutenant Bove has been unable to obtain sufficient funds from the Italian Government and people to execute his project of Antarctic exploration, and has abandoned the object for the present. He has undertaken instead the exploration of the coast-regions of Patagonia and Tierra del Fuego for the Government of the Argentine Republic. Dr. Venciguerra accompanies him as zoölogist, Professor Lovisato as geologist, and Lieutenant Roncagli as ethnologist.

GEORGIA. The vote of Georgia at the presidential election in 1880 was 102,470 for Hancock, 54,086 for Garfield, and 969 for Weaver. The total vote was 157,525, and the Democratic majority for Hancock over Garfield 48,384. The electors thus chosen were required by the act of Congress to meet in the Capitol of the State on the first Wednesday of December ensuing, and cast their votes for President and Vice-President, but, under the State law, they did not meet until the second Wednesday. Under these circumstances the question arose whether the vote of the State could be counted. The difficulty was finally avoided by the joint rule of the two Houses of Congress regulating the electoral count, which provided that if it should appear from the certificate that the vote of any State was cast on a day other than that provided for casting such votes by act of Congress, pursuant to the Constitution, the result of such certificate should not be recorded until it should appear whether the counting or omitting to count such votes would change the result of the election. Under this rule the vote of Georgia, in the joint convention on the 9th of February, was not recorded in its order, and the result of the count was announced as follows:

The tellers report that the whole number of electors appointed to vote for the President of the United States was 369, of which the majority is 185. Were the votes of the electors for the State of Georgia cast on the second Wednesday of December, 1880, being the 8th day of said month, to be counted, the result would be, for James A. Garfield, of Ohio, for President of the United States, 214 votes, and for Winfield S. Hancock, of Pennsylvania, for President, 155 votes. If not counted, the result would be, for James A. Garfield 214 votes, and for Winfield S. Hancock 144 votes. In either event James A. Garfield has received a majority of the votes of the whole number of electors appointed.

A similar announcement was made respecting the vote for Vice-President.

The question of the constitutionality of the Railroad Commission established by the Legislature was settled early in the year by the decision of Judge Woods in the case of *Tilly vs. The Railroad Commission*, in the United States Circuit Court. The main points decided in that case are:

1. That, independent of the Constitution of 1877,

the right of railroads to establish their own schedules of freights and fares is subject to legislative control, where such railroads are operating under charters obtained since January 1, 1863—that is, since the adoption of the code.

2. That the Legislature, under the Constitution of 1877, not only has the power, but it is its duty, to regulate the freights and fares of all railroads in this State, no matter when incorporated, so far as to make them just and reasonable, and to prevent unjust discrimination.

3. That to appoint a commission for that purpose is not a delegation of legislative power, but is the employment of the proper agency to regulate freight and passenger tariffs.

4. That the act creating the Railroad Commission of this State is not obnoxious to the Constitution of the United States or the Constitution of Georgia, and is therefore constitutional.

A State Temperance Convention met at Atlanta on the 4th of July, and adopted the report of a committee which recommended "that this convention ask the General Assembly to pass an act forbidding and prohibiting the manufacture, sale, or furnishing of any and all intoxicating or malt liquors, except for medicinal, manufacturing, or sacramental purposes, under proper restrictions.

"That the manufacture and sale of all intoxicating or malt liquors is a nuisance, an unequaled curse to the people and State; but, whenever any county, city, town, or militia district shall or may desire to establish a distillery for the purpose of manufacturing intoxicating or malt liquors, or to sell any malt or spirituous liquors, they may petition the ordinary of the county, who shall order an election to be held as in case of election for members of the General Assembly, upon giving thirty days' notice thereof, at which election all the qualified voters within the county, city, town, or militia district shall be entitled and authorized to vote. That the tickets shall be indorsed 'whisky' or 'no whisky'; and should a majority of all the qualified voters living within the county, city, town, or militia district vote 'whisky,' then the ordinary or mayor may issue license as prescribed by law.

"That no law shall be passed modifying or repealing any prohibitory or local-option law now of force in this State.

"That a permanent executive committee be appointed by this convention who shall prepare a bill embodying the views of this convention, and that said committee be requested to go before the Legislature and present the bill and make known the wishes of this convention.

"That the president of this convention be chairman of the executive committee.

"That the executive committee be requested to take charge of the temperance cause in the State, and to adopt such measures as will best unite the active efforts and co-operation of the friends of temperance in Georgia."

Among the resolutions adopted was the following:

Resolved, That the convention is in favor of having the question of prohibition so presented that any voter

can freely cast his ballot on that question without affecting his allegiance to the political party of his choice.

The executive committee met and adopted the following resolution and address:

Resolved, That a committee of three shall be appointed to urge the necessity of a thorough organization among the temperance people of the State, that the interest of the temperance cause may be more effectually promoted. It shall be the duty of said committee to prepare a simple, inexpensive mode of organization suitable to carry out the general idea of the work that will naturally grow out of the action of the State Temperance Convention, for the use of localities that may desire the benefit of such a uniform society.

ADDRESS.

In obedience to a call made through the public journals of the State, a convention assembled in this city on the 4th inst. to consider the best way to relieve our State of the evils connected with the use and abuse of intoxicating liquors. The convention was composed of representative men from all parts of the State. In their opinions they were conservative, in their plans they were practical, and in their purposes they were fixed and determined. The body in its deliberations was singularly free from unreasonable enthusiasm and unbridled fanaticism. That body, after a calm, thoughtful, and harmonious session, agreed to go, through its committee, before the General Assembly with a bill embodying the features of a local-option law, with the position of parties thereto reversed. It is needless in this address to rehearse the minor details of the bill; they are such as seem best calculated to secure the enforcement of the law and the suppression of the evils of intemperance.

We now call upon the citizens of the State to express their approval of the measure, and to indorse the action of the convention. This they can do by resolutions adopted by neighborhoods, districts, cities, and villages, assembled in their court-houses or academies, or other places of meeting, or by petitions circulated to which their names may be signed, and then give publicity to their action through communications addressed to the secretary of this committee at Atlanta, and to the papers published in their respective counties.

Fellow-citizens, we are near to the victory! The evil in all its magnitude has been apprehended by the men and women in our State; the danger of delay is fully appreciated, and the importance of calm, determined action is recognized. The judiciary of the State is right on the question; the press of Georgia favors repressive and restrictive measures; the ministry of our churches are supporting the reformation; the solicitous parents are anxiously watching for a remedy; the unfortunate victims of the wine-cup are appealing for help; the good citizens of every race and color, of all creeds and parties, of all ranks and stations in society, are expecting relief, and the noble women of our grand old commonwealth, with entreaty crystallized in tears and embalmed in prayers, are appealing to the General Assembly to stay the tide, and break and beat back the waves of ruin and sorrow that come like a flood in the wake of strong drink; and God, who enjoys virtue and society upon his intelligent creatures—all—all are on our side.

Be hopeful. Be firm. Be decided; and in the name of peace, and honor, and truth, and manhood, we beseech you make known your requests, and demand an everlasting redemption from the thralldom of the terrible monster who is blighting our fair land with drunkenness, ruin, and infamy.

The Legislature, having 1 Republican and 43 Democrats in the Senate, and 10 Republicans and 165 Democrats in the House, met in adjourned session on the 6th of July, and adjourned on the 27th of September, having

passed 433 bills. On the 12th of July the Governor submitted a brief message. He recommended the reduction of the charge on inspected fertilizers from fifty to twenty-five cents per ton, which he regarded as not only ample for all the needful demands of the Department of Agriculture, but as sufficient for the founding and equipment of an experimental station. He also commended to the attention of the Legislature the approaching centennial celebration at Yorktown, and the International Cotton Exposition to be held at Atlanta.

The committee of the House of Representatives appointed at the last session to visit and inspect the various camps of the penitentiary reported at this session. The camps visited contained 1,203 convicts, employed at farm-labor, railroad-building, mining, and manufacturing. The committee found various abuses, and summarized their conclusions as follows:

1. That the system needs a central authority employed to exercise a supervisory control over all persons, companies, and corporations holding the convicts of this State under lease, or otherwise, as to government, discipline, and management of the convicts, with full power and authority to frame all suitable rules and regulations for the proper government and control of said convicts.

2. Humanity and justice to the convicts require that the State appoint an officer at each camp to stand between the convict and the lessee, and to enforce all rules adopted by the central authority for their discipline and government, and to protect the prisoners from cruel and inhuman treatment.

3. That, as the system exists, in the judgment of the committee, there is nothing in it that tends to the reformation of the criminal. It impinges with a crushing force upon the great work of the moral regeneration of the prisoners. The old felon, who has led a life of sin and degeneracy, continues in the practice of his immoralities. The youthful convict is chained by his side day after day and night after night, and is compelled to serve out his sentence under the pale of this evil influence. He naturally contracts the habits and vices of his companion, and, at the end of his time, instead of being a reformed man, he is turned loose on the country and society trained in habits and practices that are destructive to everything which may be called good.

An act was passed on this subject which provides for the appointment of an assistant keeper of the penitentiary, at a salary of \$1,200 a year and traveling expenses. Either the assistant or the principal keeper shall visit each camp once every month and report to the Governor. If they find that the lease has been violated in any respect, the Governor is directed at once to institute proceedings to have the lease of the offending lessee forfeited, and the Attorney-General is directed to represent the State in these prosecutions. All persons are forbidden whipping any convict, except the regular whipping-boss, who is to be appointed by the lessees of each camp, his appointment to be confirmed by the Governor. Upon the discharge of each person, he is to be furnished with a suit of citizen's clothes, and provided with transportation and expenses back to the county from which he was sentenced.

Another act makes important changes in the

usury law. The maximum charge is still fixed by law at eight per cent, but under the new bill the lender has the right to charge whatever rate the borrower agrees upon, and can collect the same if the borrower does not appeal to the law against paying. If this is done, the lender is mulcted only for the surplus of the interest above eight per cent, and not for the entire interest, as under the present law. It also becomes incumbent upon the borrower to show that the lender has violated the law, and it does not devolve upon the lender the burden of proof as under the present law.

Perhaps the most important legislation of the session was a general railroad law, by which charters can be obtained by the filing of articles of incorporation.

While no general temperance bill of importance was passed, the sale of liquor was prohibited in a great many counties, by reason of the increase of the license-tax to such a figure as can not be paid. The sale of liquor is now prohibited in forty-eight counties. Prohibition was asked for a great many other counties, but was killed or postponed by amendments which allow the people of the various townships and districts to vote whether or not the sale of liquor shall be prohibited. The temperance people, on the other hand, gain a great deal in the prohibition of the sale of liquor within a certain number of miles of certain churches, colleges, and academies, and altogether the session resulted in very materially enlarging the circle of prohibition.

Other acts passed were the following: To define the rights and powers of purchasers of railroads; to establish a system of public schools for Rome; to prohibit the employment of minors in any place where intoxicating liquors are sold, to be drunk on the spot; to secure uniformity in grading teachers of public schools; to incorporate the Covington and South River Railroad; to incorporate the Logansville Railroad; to amend section 1312 of the code, fixing the time of meeting for presidential electors; to declare persons who can not read and write incapable of serving as election managers; to reapportion the House of Representatives of this State; to provide for the more efficient granting of diplomas by medical colleges; to incorporate companies formed for steam navigation in ocean or rivers; to incorporate the Georgia Southern and Florida Railroad Company; to regulate the practice of medicine in Georgia; to incorporate the Gainesville, Blairsville and State Line Railroad; to fix the time of elections for the General Assembly; to incorporate the Cumming and Suwannee Railroad Company; to incorporate the Springs Railroad Company; to incorporate the Monticello and Trans-Ocmulgee Railroad Company; to enable the trustees of the State University to inaugurate a system of free tuition; to incorporate the Brunswick and Flint River Railroad Company; to construct a line from Elberton to intersect the New

York and New Orleans Railroad; to incorporate the Rome Southern Railroad Company; to charter the Middle Georgia Railroad; to incorporate the Covington and North Georgia Railroad; to incorporate the Dahlonga, Dawsonville and Gainesville Railroad Company; to authorize a railroad from Covington to the Ocmulgee River; to provide for registering the voters of Savannah; to incorporate the Greenville and White Sulphur Springs Railroad Company; to incorporate the Kingston, Walesca and Gainesville Railroad; to incorporate the Elberton and Point Peter Railroad; to incorporate the Elberton and Petersburg Railroad; to incorporate the Cedartown Railroad Company; to incorporate the Etowah and Blue Ridge Railroad Company.

The following is a list of all the towns in the State that have a population of over 1,000—thirty-nine in number:

RANK.	CITIES AND TOWNS.	1880.	1870.
1	Atlanta.....	87,409	21,789
2	Savannah.....	30,709	28,285
3	Augusta.....	21,891	15,889
4	Macon.....	12,748	10,810
5	Columbus.....	10,128	7,401
6	Athens.....	6,099	4,251
7	Rome.....	3,877	2,748
8	Americus.....	3,630	3,259
9	Albany.....	3,216	2,101
10	Brunswick.....	2,891	2,348
11	Thomasville.....	2,555	1,651
12	Dalton.....	2,516	1,899
13	La Grange.....	2,296	2,058
14	Marietta.....	2,227	1,888
15	Washington.....	2,199	1,506
16	Cuthbert.....	2,129	2,210
17	Cartersville.....	2,087	2,232
18	Newnan.....	2,006	1,917
19	Madison.....	1,974	1,384
20	Barnesville.....	1,962	754
21	Gainesville.....	1,919	472
22	Greenesboro.....	1,621	913
23	Dawson.....	1,576	1,099
24	Darien.....	1,543	547
25	Hawkinsville.....	1,542	828
26	Valdosta.....	1,515	1,199
27	Bainbridge.....	1,436	1,351
28	Covington.....	1,415	1,121
29	Quitman.....	1,400	784
30	Conyers.....	1,374	637
31	Eatonton.....	1,371	1,240
32	Sandersville.....	1,279	1,989
33	Fort Valley.....	1,277	1,388
34	West Point.....	1,173	1,405
35	Forsyth.....	1,105	1,510
36	Jonesboro.....	1,049	531
37	Warrenton.....	1,022	620
38	Waynesboro.....	1,008	848
39	Talbotton.....	1,008	796

This table shows that the five largest towns of the State—Atlanta, Savannah, Augusta, Macon, and Columbus—are increasing faster than the remainder of the State. These towns now contain 112,880 people, against 83,624 in 1870—a gain of about forty per cent, against thirty per cent in the entire State.

The census of 1880 shows a large increase in the number of farms, indicating a progressive tendency toward subdivision. The number of farms in Georgia, in 1850, was 51,759; 1860, 62,003; 1870, 69,956; 1880, 138,626, of which 76,451 were cultivated by the owners, 18,557 by tenants at a fixed rental, and 43,618 on shares. The State produced, in the census

year, 814,441 bales of cotton on 2,617,138 acres. The average production per acre is highest in upper Georgia, and decreases through middle and lower Georgia. The following are the chief cotton counties:

Burke, 29,172 bales; Washington, 23,058; Houston, 19,099; Troup, 18,655; Coweta, 16,282; Meriwether, 15,154; Hancock, 15,010; Floyd, 14,545; Jefferson, 13,377; and Cobb, 13,092 bales. This list comprises all the counties that produced more than 13,000 bales. Bartow, Greene, Gwinnett, Harris, Henry, Monroe, Oglethorpe, Pike, Stewart, Sumter, Talbot, Walton, and Wilkes, are each credited with more than 10,000, but less than 13,000 bales.

In the manufacture of cotton Georgia had 200,974 spindles, employing 6,678 hands, and using 67,874 bales.

The average production of wheat was only 6.64 bushels per acre, and of corn 11 bushels. It appears from the census that the chief corn-producing counties were Burke, 505,290 bushels; Gwinnett, 470,409 bushels; Washington, 411,499 bushels; Cobb, 406,730 bushels; and Floyd, 405,290. The product of the State was 23,202,018 bushels, from 2,538,733 acres of land.

Of oats, Brooks produced 163,862 bushels; Thomas, 158,467; Wilkes, 133,277; Houston, 121,261; Coweta, 106,331; Lowndes, 102,276. The product of the State was 5,548,743 bushels, and the acreage 612,788.

The production of rye in the State was small, although well distributed, nearly every county adding something to the crop. Union contributed 9,132 bushels; Fannin, 8,050; Rabun, 6,811; Towns, 6,669; Washington, 5,456, and Wilkinson, 3,790. In the State, 101,716 bushels were grown on 25,854 acres.

The foremost wheat county of the State was Bartow. Its product was 131,935 bushels. Then come Gordon with 113,222 bushels; Cobb, 80,617; Coweta, 77,075; Carroll, 74,826; and Gwinnett, 74,795. The State produced 3,159,771 bushels. The acreage was 475,684.

No coal was mined in Georgia in 1869, but in 1880 about 100,000 tons were produced.

In the latest report of the Commissioner of Public Schools, issued during the year, there is a summary of the school-work of the State since the foundation of its school system, as follows:

In 1871, white pupils, 42,914; colored, 6,664; total, 49,579. In 1873, white, 63,922; colored, 19,755; total, 83,677; increase over the attendance of 1871, 34,099. In 1874, white, 93,167; colored, 42,374; total, 135,541; increase over the attendance of 1873, 51,864. In 1875, white, 105,990; colored, 50,385; total, 156,394; increase over the attendance of 1874, 20,808. In 1876, white, 121,418; colored, 57,987; total, 179,405; increase over the attendance of 1875, 23,011. In 1877, white, 128,296; colored, 62,330; total, 190,626; increase over the attendance of 1876, 11,221. In 1878, white, 137,217;

colored, 72,655; total, 209,872; increase over the attendance in 1877, 19,246. In 1879, white, 147,192; colored, 79,435; total, 226,627; increase over the attendance in 1878, 16,755. In 1880, white, 150,134; colored, 86,429; total, 236,563; increase over the attendance in 1879, 9,936.

The work of 1880 was accomplished on an appropriation by the State of only \$185,789, or much less than one dollar a scholar. The county school commissioners received in addition to this sum about \$160,000—the net proceeds of the poll-tax, making the total amount paid by the people toward the support of schools \$315,748, or seventy-three cents a head of the school population, \$1.39 of the enrollment, and \$2.39 of the average attendance. Commissioner Orr estimated that the receipts on account of the liquor-tax might swell the State appropriation of the current year to \$380,000, which would be about eighty-eight cents for each child in the State within the school ages. The appropriations of certain cities and counties that maintain schools under local laws amount to about \$150,000—making the total appropriation in the State toward the maintenance of public schools \$530,000. The school population is 433,444.

The railroads of Georgia are 2,616 miles long, and cost \$49,676,723. The capital stock stands at \$31,380,615; the funded debt at \$23,033,200, and other debts at \$1,103,527—total, \$55,517,342. The Georgia roads earned in 1880 \$8,419,626, the net earnings being \$3,429,013, of which \$1,051,111 was paid out as interest on bonds, and \$1,619,936 as dividends on stock. Several important railroad enterprises connected with the State were initiated during the year.

The Cincinnati and Georgia syndicate was organized in New York in May, with a capital of \$16,000,000. The company purchased the Macon and Brunswick system in Georgia; the Selma, Rome, and Dalton in Alabama; the East Tennessee and Virginia in the States named, and a lease of the Memphis and Charleston, and will build at a cost of about \$7,000,000 several lines of road to connect the purchased properties into one system. The work on the connections was at once begun, and when finished will give the syndicate a cart-wheel system, the hub being at Chattanooga and the spokes penetrating the richest sections of the South in five directions, and finding termini at Bristol, in Tennessee, the Mississippi River at Memphis, at Meridian, where the Southwestern roads end, and the Atlantic Ocean at Brunswick and Savannah.

The Georgia Pacific syndicate was organized to build from Atlanta to Birmingham, Alabama, through the coal and iron fields of Alabama, heretofore virtually unpenetrated, and thence to the Mississippi River. General John B. Gordon, who resigned his senatorship to give himself to such enterprises, is president of the company.

The Erlanger syndicate, made up of Frankfort capitalists, owned the Alabama and Great Southern road, and purchased the Brunswick and Albany road of Georgia, the Vicksburg and Shelbyville, and the Vicksburg and Meridian roads, at a cost of \$10,800,000. This company will build 320 miles of new roads. When completed, its system will stretch from New Orleans to Chattanooga northward and coastward, and from New Orleans to Brunswick, Georgia.

The Richmond and Danville syndicate controls the organization of the Richmond and Danville road, is interested in the Georgia Pacific, and has bought the Columbia and Green-

ville system of roads, aggregating 297 miles, and costing \$16,000,000; the Charlotte, Columbia and Augusta road, costing \$1,300,000; the Western and North Carolina road, costing, with its extension, over \$4,000,000, and \$1,000,000 to finish it; and the New York river road, costing, with its extension, \$1,500,000. The company is now engaged in extending the Northwestern road from Athens, Georgia, to Knoxville, Tennessee, which will cost \$4,000,000.

The population of the State by counties, as finally returned by the census of 1880, and as compared with the returns of 1870, is as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Appling	5,276	5,036	Fayette	8,605	8,221	Newton	13,623	14,615
Baker	7,907	6,843	Floyd	24,418	17,230	Oconee	6,351	.....
Baldwin	13,806	10,618	Forsyth	10,559	7,983	Oglethorpe	15,400	11,782
Banks	7,337	4,973	Franklin	11,453	7,593	Paulding	10,887	7,639
Bartow	18,690	16,566	Fulton	49,187	33,446	Pickens	6,790	5,317
Berrien	6,619	4,518	Gilmer	8,386	6,644	Pierce	4,538	2,778
Bibb	27,147	21,255	Glasseock	3,577	2,736	Pike	15,849	10,905
Brooks	11,727	8,342	Glynn	6,497	5,376	Polk	11,952	7,822
Bryan	4,929	5,252	Gordon	11,171	9,268	Pulaski	14,053	11,940
Bullock	8,053	5,610	Greene	17,547	12,454	Putnam	14,539	10,461
Burke	27,128	17,679	Gwinnett	19,531	12,431	Quitman	4,392	4,150
Butts	8,311	6,941	Habersham	8,718	6,322	Rabun	4,634	3,256
Calhoun	7,024	5,503	Hall	15,298	9,607	Randolph	13,341	10,561
Camden	6,183	4,615	Hancock	16,989	11,317	Richmond	84,665	25,724
Campbell	9,970	9,176	Haralson	5,974	4,004	Rockdale	6,388	.....
Carroll	16,901	11,732	Harris	15,758	13,284	Schley	5,302	5,129
Catoosa	4,739	4,409	Hart	9,094	6,783	Screven	12,786	9,175
Charlton	2,154	1,897	Heard	8,769	7,866	Spalding	12,535	10,205
Chatham	45,023	41,279	Henry	14,193	10,102	Stewart	13,998	14,204
Chattahoochee	5,670	6,059	Houston	22,414	20,406	Sumter	18,239	16,559
Chattooga	10,021	6,902	Irwin	2,696	1,837	Talbot	14,115	11,913
Cherokee	14,325	10,399	Jackson	16,297	11,181	Taliaferro	7,034	4,796
Clarke	11,702	12,941	Jasper	11,851	10,439	Tattnall	6,988	4,860
Clay	6,650	5,493	Jefferson	15,671	12,190	Taylor	8,597	7,143
Clayton	8,027	5,477	Johnson	4,800	2,964	Telfair	4,628	3,245
Clinch	4,138	3,945	Jones	11,613	9,436	Terrell	10,451	9,033
Cobb	20,748	13,814	Laurens	10,053	7,834	Thomas	20,597	14,523
Coffee	5,070	3,192	Lee	10,577	9,567	Towns	3,261	2,750
Colquitt	2,527	1,654	Liberty	10,649	7,683	Troup	20,565	17,632
Columbia	10,465	13,529	Lincoln	6,412	5,413	Twiggs	8,913	8,545
Coweta	21,109	15,875	Lowndes	11,049	8,321	Union	6,431	5,267
Crawford	8,656	7,557	Lumpkin	6,526	5,161	Upson	12,400	9,430
Dade	4,702	3,033	McDuffie	9,449	.....	Walker	11,056	9,925
Dawson	5,337	4,369	McIntosh	6,241	4,491	Walton	15,622	11,033
Decatur	19,072	15,183	Macon	11,675	11,458	Ware	4,159	2,236
De Kalb	14,497	10,014	Madison	7,973	5,227	Warren	10,885	10,545
Dodge	5,353	.....	Marion	8,598	8,000	Washington	21,964	15,842
Dooly	12,420	9,790	Meriwether	17,651	13,756	Wayne	5,930	2,177
Dougherty	12,622	11,517	Miller	3,720	3,091	Webster	5,237	4,677
Douglas	6,934	.....	Milton	6,261	4,234	White	5,341	4,606
Early	7,611	6,998	Mitchell	9,392	6,633	Whitfield	11,900	10,117
Echols	2,553	1,978	Monroe	13,803	17,213	Wilcox	3,109	2,439
Effingham	5,979	4,214	Montgomery	5,331	3,536	Wilkes	15,935	11,796
Elbert	12,957	9,249	Morgan	14,032	10,696	Wilkinson	12,061	9,383
Emmanuel	9,759	6,134	Murray	8,269	6,500	Worth	5,892	3,773
Fannin	7,245	5,429	Muscogee	19,322	16,663			
State							1,542,130	1,184,109

(For the details of the Atlanta Exposition, see EXPOSITION, INTERNATIONAL COTTON, ATLANTA.)

GERMAN IMPERIAL PARLIAMENT, THE. This Parliament consists of the Bundesrath or Federal Council, and the Reichstag or Diet of the Empire. The Federal Council represents the individual states of Germany, and the Diet the German nation. The members of the Federal Council, fifty-nine in number, are appointed by the governments of the individual states for each session, while the members of the Diet, three hundred and ninety-seven in

number, are elected by universal suffrage for the term of three years. Both bodies meet in annual session, convoked by the Emperor. He has the right to prorogue and dissolve the Diet, but the prorogation must not exceed sixty days; while in case of dissolution new elections must take place within sixty days, and a new session open within ninety days. An absolute majority of both Houses is necessary to pass all laws for the empire. The Federal Council is presided over by the Imperial Chancellor, while the President of the Diet is elected by the deputies.

The Federal Council, acting under the Chancellor, represents in addition to its legislative functions a supreme administrative and consultative board, and as such has seven standing committees, as follows: for army and navy; tariff, excise, and taxes; trade and commerce; railroads, posts, and telegraphs; civil and criminal law; financial accounts; and foreign affairs. Each committee consists of representatives of at least four states of the empire, while the Committee on Foreign Affairs includes only the representatives of the kingdoms of Prussia, Bavaria, Saxony, and Württemberg.

The question of creating a Parliament was one of the most difficult that presented itself to German statesmen upon the creation of the North German Confederation, the institutions of which were almost entirely adopted by the German Empire. There was a time when the idea of a National German Parliament was cherished by the greatest minds as well as by the masses of Germany. It is not to be wondered at, however, that the enthusiasm, which greeted the creation of the German Reichstag and before it the German Customs Parliament, has been succeeded by criticism and even in some quarters by open hostility. The question whether a Parliament is necessary for the development of national life in Germany, is thought by German writers* to be best answered by a review of Bismarck's German policy previous to the North German Confederation. His strongest blow against the old Bundestag or Federal Diet was to demand a National Assembly elected by the direct vote of the people. This demand, made by the Prussian ministry in 1863, was repeated by the resolution offered by Prussia in the Federal Diet in 1866. It really seemed as if no other way was open to bring about German unity, than by the co-operation of the entire nation, and the best means by which to secure this was by a direct representation of the people. Furthermore, this plan offered a sufficient protection against the distinct tendencies of the several states. The question as to the manner of carrying out this plan offered from the beginning serious difficulties. The demand for a correct application of the double-Chamber system, which was made in the beginning, is no longer heard, and the Bundesrath, in its double function as Upper House and a part of the executive, is but little objected to. The application of the most democratic of all electoral systems, that of a general franchise to the election of the Imperial Diet, was met with strong objections from the very beginning. In spite of all opposition, Bismarck introduced this system upon the creation of the North German Confederation, copying almost verbally the electoral law of April 12, 1849, of the Frankfort National Assembly. The only other system which could have been adopted under the then existing circumstances, that of an indirect election by means of electors, was desig-

nated by Bismarck himself as the very worst possible. The demand for the abolition of the general franchise, which has been heard on several occasions, has of late practically ceased. It has been opposed by the argument that it would be very unwise to change the political system of the country after so short a time. The same argument is brought forward against the demand to increase the age at which the Germans acquire the right to vote from twenty-five to thirty years.

Considerable opposition has been raised against the present composition of the Diet. It has been stated that there was great danger from demagogues and monopolies, and that too many deputies make a business of their office, and are in the way of the true representatives of the people. Prince Bismarck has complained that, after new elections, he sees on the whole the same faces as before. This, however, is a poor argument, for it is not to be expected that a people will change its representatives every three years. The majority of the complaints of the present composition of the Diet come from the official organs of the Government, and there can be but little doubt that Prince Bismarck, by bringing forward these questions, desires to destroy the old parties, and to secure the devoted majority which he has desired for so long a time. To a certain degree he has been successful in the disintegration of parties. The so-called German Conservative party has always been a mixture of agrarians and devoted adherents of the Government, and it is a matter of course that it should be a government party. The Free Conservative Imperial party has been divided during the past year by the new policy of the Chancellor. The same policy has separated from the National Liberals the protectionist group of Völk-Schauss, and to a certain extent the free-trade group of Bamberger-Forckenbeck. The immediate future will show whether this process of disintegration will continue. But, whether it will continue or not, it can not be foreseen now how Prince Bismarck's compact majority is to be formed. A chaos of the different groups appears much more probable. Prince Bismarck certainly sees the danger arising from such a condition for the young empire. No doubt, however, he considers himself able to mold such a chaos according to his will. In other words, the protection against the dangers of a general franchise is not to be found, according to Bismarck, in independent and strong political parties, but in a strong government which rules everything—a government which contends against the social elements striving to gain the mastery over the state, by making itself their leader, and then leading them according to its will, and thus making them subsidiary to its interests. It is no secret, how little sympathy Prince Bismarck has for a strong Reichstag. Even when he was in the fullest accord with the Parliament, he carefully avoided the grant to it of new privileges or the extension of

* "Unsere Zeit."

old ones. He has even brought forward several bills that had for their object a direct diminution of the influence and independence of Parliament, which the latter had the courage to reject. It is a question, however, whether future attempts in the same direction will have the same result. Even now the question is frequently heard, What is the use of a Parliament while the Chancellor, assisted by a commission of experts in the various branches of the government, takes care of the welfare of the people? But it is thought in Germany that the attacks of Bismarck are directed not so much against the form of the parliamentary system as against its independence, and this can be prevented by Parliament itself. The relative strength of the parties in Parliament, with its Center composed of clerical and distinctive elements, and numbering about one hundred members, will prevent, on the one hand, Prince Bismarck from securing a majority entirely devoted to him and his plans, which would make of Parliament a mere machine to carry out the Chancellor's wishes, while at the same time it will make a real parliamentary government an impossibility. It is to be expected that the party strife, which has been a characteristic feature of the German Parliament in the past, will continue in the future.

GERMANY, an empire in Europe, re-established January 18, 1871. The Emperor, Will-

iam I, was born March 22, 1797, and was married June 11, 1829, to Augusta, daughter of the Grand Duke Charles Frederick of Saxe-Weimar. The heir-apparent, Frederick William, born October 18, 1831, has the official titles of Crown Prince of the German Empire and Crown Prince of Prussia. He was married January 25, 1858, to Victoria, Princess Royal of Great Britain and Ireland, born November 21, 1840, and has six children, viz.: Frederick William, born 1859, married in 1881 to Princess Victoria of Schleswig-Holstein-Augustenburg; Henry, born 1862; Charlotte, born 1860, married in 1878 to Bernhard, hereditary prince of Saxe-Weimar; Victoria, born 1866; Sophia, born 1870; and Margareta, born 1872. One son, Waldemar, born in 1868, died March 27, 1879. Imperial Chancellor (*Reichskanzler*), Otto, Prince von Bismarck-Schönhausen.

The German Empire consists at present of twenty-six states, of which four are kingdoms, six grand duchies, five duchies, seven principalities, three free cities, and one, Alsace-Lorraine, an imperial province (*Reichsland*). The area of the German Empire in 1880 was 540,497 square kilometres, or 208,687 English square miles. The following table exhibits all the states of the German Empire, the area, the population according to the census of 1880, the number of representatives of every German state in the Federal Council, and the number of deputies who represent each state in the Reichstag:

STATES.	Area in square kilometres.	Population in 1880.	Votes in the Federal Council.	Deputies in Parliament.
1. Prussia (including Lauenburg).....	348,257.59	27,251,067	17	236
2. Bavaria.....	75,863.49	5,271,516	6	43
3. Saxony.....	14,992.94	2,970,220	4	23
4. Württemberg.....	19,503.69	1,970,182	4	17
5. Baden.....	15,086.73	1,570,189	3	14
6. Hesse.....	7,680.32	936,944	3	9
7. Mecklenburg-Schwerin.....	13,303.75	576,827	2	6
8. Saxe-Weimar.....	3,592.64	309,503	1	3
9. Mecklenburg-Strolitz.....	2,929.50	100,269	1	1
10. Oldenburg.....	6,420.22	337,454	1	3
11. Brunswick.....	3,690.43	349,429	2	3
12. Saxe-Meiningen.....	2,468.41	207,147	1	2
13. Saxe-Altenburg.....	1,323.75	155,062	1	1
14. Saxe-Coburg-Gotha.....	1,967.74	194,479	1	2
15. Anhalt.....	2,347.35	232,747	1	2
16. Schwarzburg-Rudolstadt.....	.942.13	80,149	1	1
17. Schwarzburg-Sondershausen.....	862.11	71,083	1	1
18. Waldeck.....	1,121	58,548	1	1
19. Reuss (older line).....	316.89	50,782	1	1
20. Reuss (younger line).....	826	101,265	1	1
21. Schaumburg-Lippe.....	339.71	35,332	1	1
22. Lippe.....	1,188.75	120,216	1	1
23. Lübeck.....	293.72	63,571	1	1
24. Bremen.....	255.50	156,229	1	1
25. Hamburg.....	409.78	454,041	1	3
26. Alsace-Lorraine.....	14,503.10	1,571,971	1	15
Total.....	540,496.74	45,194,172	58	397

In the following table will be found the full exhibit of the governments of the particular states, including the names and the titles of all the sovereign princes, their years of birth and accession to the thrones, and the names of the heirs-apparent. It will be seen that the ducal line of Brunswick is likely to become extinct by the death of the reigning Duke.

The succession is disputed by the Duke of Cumberland (son of the late King of Hanover) and the Emperor of Germany. It is also interesting to notice that the heir-apparent is the son of the reigning sovereign in only thirteen of the twenty-two sovereign houses which belong to the German Empire; in the others he is the cousin, brother, or nephew.

STATES.	Title.	Name.	When born, and when succeeded to the government.	Heir-apparent.
Prussia.....	King.....	William I.....	Born 1797, succ. 1861...	Frederick William, son.
Bavaria.....	King.....	Louis II.....	" 1845, " 1864...	Otto, brother.
Saxony.....	King.....	Albert.....	" 1823, " 1873...	George, brother.
Württemberg.....	King.....	Charles I.....	" 1825, " 1864...	William, cousin.
Baden.....	Grand Duke.....	Frederick.....	" 1826, " 1856...	Frederick William, son.
Mecklenburg-Schwerin.....	Grand Duke.....	Frederick Francis II...	" 1823, " 1842...	Frederick Francis, son.
Hesse.....	Grand Duke.....	Louis IV.....	" 1837, " 1877...	Ernest Louis, son.
Oldenburg.....	Grand Duke.....	Peter.....	" 1827, " 1853...	August, son.
Saxe-Weimar.....	Grand Duke.....	Charles Alexander.....	" 1813, " 1853...	Charles August, son.
Mecklenburg-Strelitz.....	Grand Duke.....	Frederick William.....	" 1819, " 1860...	Adolf Frederick, son.
Brunswick.....	Duke.....	William.....	" 1806, " 1831...	Disputed.
Anhalt.....	Duke.....	Frederick.....	" 1831, " 1871...	Leopold, son.
Saxe-Altenburg.....	Duke.....	Ernest.....	" 1826, " 1853...	Maurice, brother.
Saxe-Coburg-Gotha.....	Duke.....	Ernest II.....	" 1813, " 1844...	Prince Alfred, nephew.
Saxe-Meiningen.....	Duke.....	George II.....	" 1826, " 1866...	Bernhard, son.
Lippe-Deimold.....	Prince.....	Waldemar.....	" 1824, " 1875...	Hermann, brother.
Reuss (elder line).....	Prince.....	Henry XXII.....	" 1846, " 1859...	Henry XXIV, son.
Reuss (younger line).....	Prince.....	Henry XIV.....	" 1832, " 1867...	Henry XXVII, son.
Schaumburg-Lippe.....	Prince.....	Adolf.....	" 1817, " 1860...	George, son.
Schwarzburg-Rudolstadt.....	Prince.....	George.....	" 1833, " 1869...	Güthner, second cousin.
Schwarzburg-Sondershausen.....	Prince.....	Charles.....	" 1830, " 1880...	Leopold, brother.
Waldeck.....	Prince.....	George.....	" 1831, " 1845...	Frederick, son.
Bremen.....	Burgomaster.....	F. L. Grave.....	" 1879-83	
		Dr. O. Gildemeister....	" 1877-81	
Hamburg.....	Burgomaster.....	Dr. Kirchenpaner.....	" 1881...	
Lübeck.....	Burgomaster.....	Dr. H. A. C. Weber....	" 1881...	
	Stadtholder, appointed by the Emperor.....	Dr. A. G. Kulenkamp.....	" 1882...	
Alsace-Lorraine.....		Freiherr von Manteuffel		

The population of cities with more than 25,000 inhabitants was as follows, according to the census of 1880:

The following table shows the growth of the population of the German Empire within its present limits since 1816:

CITIES.	Population.	CITIES.	Population.
Berlin.....	1,122,360	Frankfort-on-the-Main.....	187,600
Hamburg.....	289,859	Frankfort-on-the-Main (inclusive of suburbs).....	149,309
Hamburg (inclusive of suburbs).....	410,127	Hanover.....	122,860
Breslau.....	272,390	Stuttgart.....	117,303
Munich.....	230,023	Bremen.....	112,158
Dresden.....	220,318	Dautzie.....	108,549
Leipsic.....	149,081	Strasbourg.....	104,501
Cologne.....	144,751	Nuremberg.....	99,519
Königsberg.....	140,896	Magdeburg.....	97,529
Frankfort-on-the-Main.....	187,600	Magdeburg (inclusive of suburbs).....	137,109
Frankfort-on-the-Main (inclusive of suburbs).....	149,309	Barmen.....	95,861
Hanover.....	122,860	Düsseldorf.....	95,459
Stuttgart.....	117,303	Chemnitz.....	95,123
Bremen.....	112,158	Elberfeld.....	93,503
Dautzie.....	108,549	Stettin.....	91,745
Strasbourg.....	104,501	Altona.....	90,749
Nuremberg.....	99,519	Aix-la-Chapelle.....	85,432
Magdeburg.....	97,529	Brunswick.....	75,083
Magdeburg (inclusive of suburbs).....	137,109	Crefeld.....	73,866
Barmen.....	95,861	Halle.....	71,438
Düsseldorf.....	95,459	Mülhausen.....	68,283
Chemnitz.....	95,123	Dortmund.....	66,546
Elberfeld.....	93,503	Posen.....	64,733
Stettin.....	91,745	Augsburg.....	61,408
Altona.....	90,749	Mayence.....	61,322
Aix-la-Chapelle.....	85,432	Cassel.....	58,314
Brunswick.....	75,083	Essen.....	56,957
Crefeld.....	73,866	Mannheim.....	53,454
Halle.....	71,438	Erfurt.....	53,272
Mülhausen.....	68,283	Metz.....	53,107
Dortmund.....	66,546	Lubeck.....	51,055
Posen.....	64,733	Würzburg.....	51,014
Augsburg.....	61,408	Görlitz.....	50,306
Mayence.....	61,322	Wiesbaden.....	50,288
Cassel.....	58,314		
Essen.....	56,957		
Mannheim.....	53,454		
Erfurt.....	53,272		
Metz.....	53,107		
Lubeck.....	51,055		
Würzburg.....	51,014		
Görlitz.....	50,306		
Wiesbaden.....	50,288		

YEAR.	Population.	Average annual increase.
1816.....	24,331,396	.....
1820.....	26,291,606	1.43 p. c.
1830.....	29,518,125	0.98 "
1840.....	32,785,150	1.16 "
1850.....	35,395,496	0.57 "
1860.....	37,745,187	0.88 "
1870.....	40,816,249	0.53 "
1875.....	42,727,360	0.92 "
1880.....	45,194,172	1.12 "

The total emigration from Germany from 1875 to 1880 was as follows:

YEARS.	Via Bremen.	Via Hamburg.	Via Stettin.	Via Antwerp.	Total.
1875.....	12,613	15,326	263	2,066	30,773
1876.....	10,972	12,706	292	4,488	28,368
1877.....	9,328	10,725	75	1,836	21,964
1878.....	11,329	11,827	85	976	24,217
1879.....	15,323	13,165	245	4,089	33,327
1880.....	51,627	42,787	552	11,224	106,190
Total.....	111,697	107,036	1,427	24,679	244,839

The number of emigrants who went by way of Havre was, in 1879, 9,856; in 1880, 10,757; from 1871-'80, 30,494. The destination of these 244,839 emigrants was as follows:

YEARS.	United States.	Brazil.	Other countries of America.	Australia.	Africa.	Asia.
1875.....	27,834	1,337	433	1,026	1	37
1876.....	22,767	3,432	853	1,226	54	81
1877.....	18,240	1,069	563	1,306	750	31
1878.....	20,373	1,043	634	1,713	394	50
1879.....	30,308	1,630	561	274	23	31
1880.....	103,115	2,119	761	132	27	36
Total..	223,137	10,635	3,370	5,682	1,249	216

The movement of population in 1879 was as follows:

STATES.	Marriages.	Births. Deaths.		Still- births.	Surplus of births.
		Incl. of still-births.			
Prussia.....	206,752	1,096,385	711,322	44,752	385,063
Bavaria.....	35,067	215,281	162,479	7,220	52,802
Saxony.....	25,230	130,750	86,593	5,801	44,157
Württemberg....	12,735	83,971	60,798	3,057	23,173
Baden.....	10,469	59,382	43,322	1,843	16,060
Alsace-Lorraine.	9,705	53,637	42,382	1,959	11,805
Hesse... ..	6,323	33,733	22,160	1,411	11,623
Other states.....	28,827	133,497	85,557	5,327	47,910
Total.....	335,113	1,806,741	1,214,643	70,870	592,098

The budget of the German Empire for 1881-'82, according to the law of March 28, 1881, estimates the revenue and expenditure at 592,956,554 marks each (1 mark = 23·8 cents). The revenue was derived from the following sources:

	Marks.
1. Customs and excise.....	335,490,150
2. Stamps on playing-cards.....	1,100,000
3. Stamp-duty on bills of exchange.....	6,106,900
4. Statistical dues.....	300,000
5. Post-Office and telegraphs (net).....	18,697,145
6. Railroads (net).....	11,039,400
7. Imperial printing-office.....	1,061,520
8. Imperial and other banks.....	1,505,430
9. Miscellaneous receipts.....	5,815,501
10. From the imperial funds for invalids.....	31,071,344
11. Surplus of former years.....	6,529,730
12. Interest from invested capitals.....	3,842,650
13. Extraordinary receipts.....	67,108,306
14. Matricular contributions.....	103,288,523
Total.....	592,956,554

The expenditures of the empire were estimated as follows (in marks):

EXPENDITURES.	Ordinary.	Extraordinary.
1. Imperial Parliament.....	403,770	.....
2. Chancellor of the Empire and Imperial Chancery.....	125,770	.....
3. Foreign Affairs and consulates.....	6,564,890	131,400
4. Department of the Interior.....	2,843,692	394,605
5. Posts and Telegraphs.....	9,159,122	.....
6. Imperial Printing-Office.....	80,000	.....
7. Army.....	342,190,985	51,130,733
8. Navy.....	27,518,326	11,373,553
9. Administration of Justice.....	1,700,852	200,000
10. Imperial Treasury.....	69,461,336	3,680,766
11. Imperial Railroad-Office.....	303,150	.....
12. Public debt.....	10,602,500	110,000
13. Chamber of Accounts.....	465,453	8,000
14. Administration of Railroads.....	.....	3,388,064
15. Pensions.....	18,399,993	.....
16. Expenses arising from the war with France.....	.....	1,693,245
17. Imperial invalid fund.....	31,071,344	.....
Total.....	511,652,061	81,304,493
	592,956,554	

The public debt of the German Empire consists of three loans, one of 77,731,321 marks (authorized by the law of June 14, 1877), one of 97,484,865 marks (law of June 14, 1878), and one of 68,021,071 marks (law of June 13, 1879), of which there had been issued up to February 1, 1881, 251,000,000 marks. In accordance with the laws of July 9, 1879, March 26, 1880, March 28, 1881, and May 24, 1881, a new loan amounting to 102,540,008 marks had been contracted. There is also a floating debt consisting of Treasury notes issued for short

periods only. In accordance with the law of April 20, 1874, the Imperial Government has issued paper money (*Reichscassenscheine*) to the amount of 120,000,000 marks, which has been distributed among the several states in proportion to their population on December 31, 1871. The same law authorized the issue of paper money to the amount of 54,889,940 marks to facilitate the carrying out of the reform in the coinage. The amount in circulation on April 1, 1881, was 155,785,540 marks.

The military forces of the empire in time of peace are as follows:

DIVISIONS.	Officers.	Men.	Horses.
1. Staff.....	2,014	4	.....
Infantry of the line.....	9,532	278,826	.....
Chasseurs.....	424	11,120	.....
Landwehr.....	348	4,763	.....
2. Infantry.....	10,304	294,709	.....
3. Cavalry.....	2,358	64,699	62,581
Field artillery.....	1,901	34,817	16,591
Foot artillery.....	726	16,849	.....
4. Artillery.....	2,527	51,166	16,591
5. Pioneers.....	412	10,838	.....
6. Train.....	200	4,905	2,457
7. Special formations.....	313	953	.....
Total.....	18,123	427,274	81,269

This number was divided as follows among the different states:

STATES.	Officers.	Men.	Horses.
Prussia (inclusive of smaller states).....	14,004	330,629	64,167
Bavaria.....	2,214	50,224	8,886
Saxony.....	1,137	27,606	5,183
Württemberg.....	773	18,815	3,443
Total.....	18,128	427,274	81,629

The following table gives the military forces of the empire in time of war (exclusive of the Landsturm):

I. FIELD ARMY.

DIVISIONS.	Officers.	Men.	Horses.
Higher staff.....	863	5,170	5,070
Infantry.....	11,760	498,617	20,860
Jägers.....	440	20,520	800
Cavalry.....	2,140	59,814	55,608
Artillery.....	2,538	89,260	37,702
Pioneers.....	649	24,820	10,739
Train.....	785	43,004	50,772
Administration.....	216	2,826	10,864
Total.....	19,391	744,031	242,415

II. RESERVES.

DIVISIONS.	Officers.	Men.	Horses.
Substitutes of the staff....	375	1,836	320
Infantry.....	3,128	228,293	1,136
Jägers.....	80	6,360	20
Cavalry.....	465	23,994	19,717
Artillery.....	406	16,879	6,230
Pioneers.....	95	6,960	20
Train.....	247	12,287	3,930
Total.....	4,796	296,614	81,373

III. GARRISON.

DIVISIONS.	Officers.	Men.	Horses.
Offices *	850	10,000	1,850
Infantry	7,896	314,438	2,513
Jägers	80	4,020	20
Cavalry	828	22,963	25,350
Artillery	1,458	58,174	9,180
Pioneers	128	6,432	....
Total garrison	11,240	416,032	83,943
“ reserves	4,796	296,614	31,373
“ field army	19,391	744,031	242,415
Grand total	35,427	1,456,677	312,731

The empire is divided for military purposes into seventeen districts, each represented by one *corps d'armée*.

The illiteracy among the recruits during the past five years was as follows :

YEAR.	Number of recruits examined.	Number of illiterates.	Percentage of illiterates.
1876	140,197	2,975	2.12
1877	142,957	2,476	1.73
1878	143,119	2,574	1.80
1879	140,831	2,217	1.57
1880	151,180	2,406	1.59

The only parts of Germany which furnished a considerable number of illiterates were the Prussian provinces of East Prussia (7.02 per cent), West Prussia (8.75 per cent), Posen (9.91 per cent), the district of Oppeln (4.33 per cent), and Alsace-Lorraine (2.24 per cent). All other parts fall far short of the average rate of the empire.

The German navy was composed as follows in 1881 :

VESSELS.	Num-ber.	Guns.	Tons.	Horse-power.
I. AFLOAT.				
1. Steamers—ironclads :				
Frigates	7	85	50,224	43,100
Corvettes	5	32	33,210	25,400
Batteries	1	4	1,583	1,200
Gunboats	11	11	12,199	7,700
Total ironclads	24	132	97,016	77,400
Frigates	11	177	31,094	30,000
Corvettes	7	64	11,443	13,400
Dispatch-boats	7	22	5,562	7,000
Gunboats	11	33	4,765	3,650
Torpedo-vessels	10	4	1,974	3,290
Transport-steamers	2	..	495	320
School-ships	5	73	14,643	7,600
2. Sailing-vessels :				
Frigates	1	10	1,290	....
Brigs	3	18	1,748	....
Total	61	538	172,936	142,660
II. IN COURSE OF CON- STRUCTION.				
Corvettes	2	20	4,238	4,200
Dispatch-boats	2	4	2,764	5,400
Tender	1	4	203	160
Total	5	28	7,805	9,760

The commercial navy was as follows on January 1, 1880 :

* Including Ministry of War, offices of commanding generals, etc.

STATES.	TOTAL VESSELS.		STEAMERS.		
	Num-ber.	Tons.	Num-ber.	Tons.	Horse-power.
Prussia	3,193	480,390	158	36,793	1,710
Hamburg	451	239,562	41	88,960	3,267
Bremen	320	261,357	67	59,460	2,672
Mecklenburg	391	113,362	11	4,489	146
Oldenburg	349	66,649	..	..	..
Lübeck	43	9,666	27	6,641	336
North Sea fleet ..	2,788	723,730	195	150,915	6,088
Baltic fleet	1,959	447,556	179	45,428	2,043
Total, 1880	4,777	1,171,286	374	196,343	8,131
“ 1879	4,804	1,129,129	351	179,662	52,313
“ 1878	4,805	1,117,935	336	183,379	50,603
“ 1877	4,809	1,103,650	318	180,946	49,875
“ 1876	4,745	1,084,882	319	183,569	50,756

The trade and commerce of the empire are under the administration of the Zollverein, or Customs Union, which embraces the whole of Germany with the exception of those parts whose geographical position seems to make their admission impracticable. In 1881 it included the entire German Empire, with the exception of the free ports of Bremen, Hamburg, Bremerhaven, Geestemünde, Brake, and a small part of Baden, in all 390 square kilometres, with 594,750 inhabitants. It also includes the Grand Duchy of Luxemburg and the Austrian community of Jungholz, in all 542,681 square kilometres, with 42,337,974 inhabitants. The imports and exports for 1879 in the customs territory of Germany were estimated as follows (value in marks—1 mark = \$0.238) :

CLASSES OF GOODS.	Imports.	Exports.
Grain	687,700,000	350,000,000
Malt and other liquors	116,500,000	62,600,000
Colonial produce	230,300,000	122,400,000
Tobacco and cigars	110,200,000	8,200,000
Seeds and fruits	125,300,000	77,700,000
Animals and animal provisions ..	357,000,000	262,800,000
1. Articles of food	1,627,000,000	833,700,000
Fuel	56,900,000	84,200,000
Minerals and ores	73,700,000	94,100,000
Raw metals	57,300,000	83,200,000
Hair, hides, and leather	220,000,000	116,600,000
Spinning material	673,900,000	237,200,000
Wood and timber	167,800,000	70,000,000
2. Raw material	1,249,600,000	685,500,000
Pottery and glassware	13,600,000	55,000,000
Metals	15,700,000	90,500,000
Metal-ware	18,400,000	58,600,000
Machines and vessels	40,500,000	71,600,000
Leather, etc.	18,600,000	61,200,000
Yarn	170,900,000	57,500,000
Cordage, woven goods, and cloth- ing	157,700,000	416,200,000
Caoutchouc and wax goods	7,600,000	15,000,000
Paper	7,100,000	26,100,000
Wood and carvings	18,700,000	43,100,000
Jewelry and art goods	13,700,000	54,900,000
Manuscripts, articles for printing ..	9,200,000	22,200,000
3. Manufactured goods	491,700,000	971,900,000
4. Miscellaneous goods	404,900,000	234,300,000
5. Precious metals	119,600,000	45,800,000
Total	3,892,300,000	2,821,500,000

The movement of shipping in the German ports was as follows in 1880 :

NATIONALITY.	TOTAL.		LADEN VESSELS.		STEAMERS.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
ENTERED.						
German	36,435	3,295,019	23,603	2,957,474	6,790	1,710,249
Foreign.....	15,402	4,066,704	13,478	3,653,240	6,306	2,960,473
Total.....	51,837	7,361,723	43,081	6,642,714	13,096	4,670,722
CLEARED.						
German.....	36,257	3,338,113	26,135	2,472,004	6,822	1,717,200
Foreign.....	15,504	4,063,112	9,573	2,486,702	6,292	2,964,466
Total.....	51,791	7,401,225	35,763	4,958,706	13,114	4,681,666

The postal statistics of the empire, according to the latest official publications, were as follows :

CLASSES OF ARTICLES.	Imperial mail, 1880.	Bavaria, 1879.	Württemberg, 1879.
Letter-mail.....	1,279,624,364	161,642,764	67,870,799
Parcel and money mail.....	70,177,450	16,660,762	4,739,810
Total number of articles sent.....	1,349,802,084	178,303,526	72,610,619
Total value of money-letters (in marks).....	14,110,786,939	1,019,088,371	503,340,503
Total weight of parcels sent (in kilogrammes).....	265,784,020	33,735,753	14,207,571

The extent of electric telegraphs (in kilometres), and the amount of their business, are shown in the following table :

LINES AND DISPATCHES.	Imperial telegraph, 1880.	Bavaria, 1879.	Württemberg, 1879.	Total.
Lines.....	59,961	8,150.59	2,753	70,856
Wires.....	213,327	34,879.42	7,194.4	255,451
Number of state stations.....	5,659	1,025		6,684
Number of railway stations.....	2,316	31	382	9,913
1. Private dispatches.....	9,120,304	770,150	255,384	10,145,833
2. Official dispatches.....	327,324	73,674	170,509	572,007
3. International dispatches:				
Sent.....	2,242,456	1,062,573	520,297	6,547,345
Received.....	2,273,506			
4. Transit dispatches.....	443,208			
Total 1880.....	14,412,538			
Total 1879.....	12,973,238	1,906,402	946,190	15,830,880

The total length of railroads of Germany open for traffic on April 1, 1881 (in kilometres, 1 kilometre = 0.62 mile) :

STATES.	Govern-ment roads.	Private roads.		Total.
		Under Govern-ment control.	Controlled by the compa-nies.	
Prussia.....	11,632	3,611	5,335	20,628
Bavaria.....	4,224	...	625	4,849
Saxony.....	2,034	90	...	2,124
Württemberg.....	1,523	...	17	1,540
Alsace-Lorraine.....	1,053	55	56	1,199
Baden.....	1,220	105	...	1,325
Hesse.....	225	...	623	848
Oldenburg....	279	7	33	319
Schaumburg-Lippe....	24	...	...	24
Saxe-Meiningen.....	20	...	171	191
Hamburg.....	105	...	...	105
Bremen.....	19	...	...	19
Saxe-Weimar.....	44	...	134	223
Brunswick.....	...	...	372	372
Mecklenburg.....	...	...	380	380
Saxe-Coburg.....	9	...	...	9
Saxe-Altenburg.....	...	...	9	9
Total.....	22,421	3,393	7,855	34,174

The price-list of newspapers, for which the German post-office receives subscriptions, em-

braced, in 1881, 7,596 journals, published in thirty-one different languages. These were distributed as follows among the different lan-guages :

German.....	5,047	Slovenian.....	5
French.....	907	Servian.....	5
English.....	752	Lithuanian.....	4
Danish.....	155	Croatian.....	3
Italian.....	157	Armenian.....	2
Swedish.....	122	Bulgarian.....	2
Dutch.....	85	Persian.....	2
Norwegian.....	63	Romance dialect.....	2
Polish.....	63	Latin.....	1
Russian.....	53	Ruthenian.....	1
Spanish.....	42	Slovak.....	1
Roumanian.....	31	Platt-Deutsch (Low Ger-man).....	2
Hungarian.....	26	German and Polish.....	2
Bohemian.....	17	German and French.....	15
Greek.....	8	English and French.....	2
Flemish.....	8	Greek and French.....	2
Portuguese.....	7	German, English, and French.....	1
Hebrew.....	6		
Vindlish.....	6		

Among the foreign papers that can be or-dered there are 568 from Paris, 469 from Lon-don, 209 from Vienna, 128 from New York, 76 from Brussels, 73 from Copenhagen, 44 from St. Petersburg, 40 from Rome, and 33 from Milan.

The imperial statistical office in September,

1881, published a summary of the result of the tobacco-crop in the German customs territory for the year ending June 30, 1881. This is of particular importance, as this year was the first in which the provisions of the law of July 16, 1879, were carried into effect. The area planted with tobacco was 2,417,594 acres, 690,298 acres more than in the preceding year. This increase is due in a great measure to the unusually high price paid during 1879—viz., 75.40 marks for 100 kilogrammes of dried leaves. The crop in 1880 was a very large one, 51,531,593 kilogrammes, or 2,132 kilogrammes per hectare. Of this amount 15,289,684 kilogrammes were raised in Baden, 13,524,830 kilogrammes in Prussia, 11,028,757 kilogrammes in Bavaria, and 8,025,135 kilogrammes in Alsace-Lorraine. The total value of the crop was estimated at 36,500,000 marks.

Parliament was opened on February 15th, by a speech from the throne read by Count Stolberg-Wernigerode. It contained an important appeal to the workingmen. The Emperor declared that the remedy for socialist excesses must be sought not only in repression, but equally in a positive attempt to promote the welfare of the laboring classes. For this reason he hoped the Workingmen's Accident Insurance Bill would be welcomed by the Parliament as a complement to the legislation against social democracy. In the same category he placed a bill to regulate the constitution of trade-guilds by affording means for organizing the isolated powers of persons engaged in the same trade, thus raising their economic capacity and social and moral efficiency. The speech announced that the bill providing for biennial budgets would be again presented for the consideration of Parliament, as the allied governments were still suffering from difficulties inseparable from the simultaneous sitting of the Imperial and provincial Parliaments. A stamp-tax and a brewing-tax were also announced. The new financial policy of the empire was noticed with great satisfaction by the Emperor, while the negotiations for treaties of commerce with neighboring nations on the basis of the new customs policy were declared to be near a favorable termination. With regard to the foreign relations, the speech stated that the empire maintained peaceful and amicable relations with all foreign powers; that its political relations with the great neighboring empires were especially in consonance with the friendship which personally united the Emperor with their rulers.

On February 16th Parliament organized by the re-election of Count von Arnim-Boitzenburg as president; Herr von Frankenstein, of the Center, as first vice-president; and Herr Ackermann, Conservative, as second vice-president. As Count Arnim-Boitzenburg declined the re-election, Herr von Gossler, under-secretary of state in the Prussian Ministry of Worship, was chosen in his place.

In the course of this session Prince Bismarck suffered a number of signal defeats. The principal bills introduced by the government were either rejected or considerably altered. Notably among those which were rejected were the tax-bills and the proposition to establish biennial budgets and biennial sessions of Parliament. The bill providing for a workingmen's accident insurance was considerably altered before its passage. Its principal provisions, which were considered a direct appeal of the Government to the laboring classes, became known in January, when it was before the Federal Council. As its name indicated, the bill proposed to provide for all laborers and officials employed in any mine, factory, dock, or quarry, and whose annual income did not exceed 2,000 marks, an insurance office to be conducted by the Government to secure them against accidents incurred during their labors. For those whose annual income did not exceed 750 marks, two thirds of the premium was to be paid by the employers and one third by the authorities over the poor; for those whose income exceeded that amount, one half of the premium was to be paid by the employers, and one half by those insured. The bill was introduced on April 1st, and, after a short debate, was referred on the following day to a committee of 28. During the debate the Liberal members declared that, although they were in sympathy with the idea of the bill, still they objected to many of its provisions. An important change in the bill was made by the committee, to the effect that the governments of the several states should take the matter in hand instead of the Imperial Government. On May 30th the House began the second reading of the bill, and all the propositions of the committee were adopted—i. e., providing for insurance offices established by the several states, to the exclusion of an imperial office and of private companies; while the clause providing for the aid of Government to the premiums of those laborers having an income of less than 750 marks was dropped. After a severe struggle on these clauses, the bill passed its third reading in the above form by a vote of 145 to 108; the minority comprised the majority of the Liberal groups, the Socialists, the Poles, and a part of the Imperial party, among them Count Bismarck.

The debate on the bill providing for biennial sessions and budgets began on March 8th. It was opposed by the entire Liberal party. Herr von Bennigsen declared in a long speech that the tendency of the bill was to decrease the influence of Parliament by curtailing its great privilege of annually criticising the Government. The different Conservative factions, although differing on various points, finally agreed to refer it to a committee, which was done on March 10th. This committee reported on May 5th that the imperial budget should be determined by the budgets of the several states, and that Parliament should meet annually in

October, so as not to come into collision with the Diets of the several states. The debate led to a sharp encounter between Prince Bismarck and Herr von Bennigsen, the leader of the National Liberals. Prince Bismarck in his speech declared that the Government would do everything in its power to instruct the people before the elections as to the wishes of the Government. He appealed to Herr von Bennigsen to remove the impression from the minds of his friends that a reaction was approaching. He desired above all things a co-operation of the National Liberals and the Conservatives, while at present it appeared as if all parties, from the right wing of the National Liberals to the Social Democrats, were combining against the Government. He therefore warned Herr von Bennigsen not to let himself be caught in the meshes of the Left. On the following day the proposition of the committee that the Parliament should meet annually was passed by a vote of 140 to 129, while the proposition for biennial budgets was defeated by the same vote. The majority consisted of the Liberals and the Center. On the other hand, the Conservatives and the Center succeeded in passing a clause providing for quadrennial legislative periods. As this was unacceptable to the Liberals, the entire bill was defeated on its third reading, on May 16th.

The bills providing for the brewery, stamp, and army tax were introduced in March, together with a memorandum from Prince Bismarck on the tax reform. The memorandum starts out with the supposition that Germany is far behind other nations in the matter of indirect taxes. He urged in favor of indirect taxes, the manner of their collection, and the fact that they would be distributed equitably over all classes of the population. The shortcomings and hardships of the direct taxes alone should lead to their abolition. The empire and the several states could no longer refuse to relieve the overburdened communes of the duties which properly belong to the state, such as the promotion of education and the care for the security of persons and private property. The several states, however, could only assume such duties if the empire would provide them with new revenues, as they could not possibly increase their direct taxation. In spite of the able arguments brought forward by the Government, Prince Bismarck suffered another decided defeat on this question. The brewery-tax was rejected on its second reading on May 17th, while the stamp-tax was considerably modified.

The new elections for Parliament, which were ordered to be held on October 27th, were preceded by severe struggles. In reply to the attacks from the Liberals, Prince Bismarck, early in August, caused to be published in the columns of the official "Provinzial Correspondenz" what was regarded as his electoral programme. It stated in substance that, although the programme of the Chancellor did not really

exist as a separate document, still it could be found in many manifestations. It aimed at the national regeneration and strengthening of Germany on sound economic bases; an increase in the financial strength of the empire, by a more equitable distribution of taxation; an easier method of obtaining the necessary public revenues, by perfecting the system of indirect taxes and correspondingly lowering the direct taxes; it also aimed at relieving the communes of a large part of their educational burdens and the care of the poor; the promotion of agriculture and industry; the care of the laboring classes in accordance with the laws of practical Christianity. This programme was declared as insufficient, not only by the Liberals, but also by the Catholic Center. The National Liberals in their platform declared that they would always protect the constitutional rights of the people, and would always oppose any attempt to abrogate them. They declared themselves ready to help bring about a peaceful relation between church and state, but only on condition that the positions the state had gained, after a severe struggle, should not be sacrificed. They pledged themselves to uphold the principle of personal liberty in trade and commerce, and would only consent to further demands for taxation if an actual necessity for such taxation existed, or a corresponding reduction in other quarters be made, while a healthy relation between direct and indirect taxes was upheld. They declared themselves willing to examine any proposition to improve the material welfare of the laboring classes, but protested against making questions of great importance the shield for ventures which are financially impossible.

The result of the elections was on the whole unfavorable to the Government. The strength of the parties in the new Parliament was as follows: Center, 110; Progressists, 60; the Liberal Union (Secessionists), 48; the National Liberals, 45; the German Imperial party, 27; the Popularists, or South German Democrats, 7; the German Conservatives, 50; the Poles, 18; Alsace-Lorrainers, 15; Social Democrats, 13; and Independents, or Savages, 4. It was remarked that the most prominent advocates of the new financial plans of the Chancellor, Herr von Varnbüler and others, were defeated, while the free-trade leaders of a liberal tendency, such as Richter, Forekenbeck, Stauffenberg, and others, were re-elected, some of them from two districts. The official statistics of the election give the following result: Of the 45,234,000 inhabitants of the empire, 9,090,381 were entitled to vote, and of these 5,300,784, or little more than a half, exercised their right of suffrage. Of this number of votes, 807,000 fell to the German Conservatives, 393,000 to the Free Conservatives, 2,021,000 to the Liberals, including 700,000 to the National Liberals, 460,000 to the Secessionists, 720,000 to the Progressists, and 140,000 to the Independents, or Savages; to the Center,

1,149,000; to the Poles, 196,000; to the Social Democrats, 335,000; to the Popularists, or South German Democrats, 119,000; and to the Alsace-Lorrainers, 150,000. A notable feature of this election was that Hamburg and the other large sea-ports, as well as the principal seats of manufacture, polled a largely increased Liberal vote, and thus seemed to mark their disapprobation of the Chancellor's financial plans. It was also noted that the Social Democrats lost many votes, particularly in Saxony, their former stronghold.

Parliament was opened on November 17th, by Prince Bismarck, who read the speech from the throne.

The speech declared, concerning internal affairs, that the economic policy of the Government as to reforms in the system of taxation hitherto pursued would be strictly adhered to. Stress was laid on the necessity that provision be made by the state for invalid workmen. The measures announced for the session were as follows: For the incorporation of Hamburg in the Customs' Union, for quadrennial parliaments, biennial budgets, the accident-insurance bill, tobacco monopoly, and the liquor-tax. The speech was very coolly received both in Parliament and out of it, and the Liberals particularly complained that the Emperor had taken the defeat of the Government at the polls so little into account.

Parliament organized on the 19th, by electing Karl Gerhard von Levetzow its president, Freiherr zu Frankenstein first vice-president, and Karl August Ackermann second vice-president. Of these, Freiherr zu Frankenstein belongs to the Center, and the other two to the German Conservatives. The main thing discussed by the Parliament, before its adjournment for the holidays, was the budget, and the debate on it soon assumed a purely political character. The most remarkable speech was that of Eugene Richter, the leader of the Progressist party. In a speech lasting over two hours, he reviewed the policy of the Government in such a clear and convincing manner that his remarks remained unanswered by the Government, something heretofore unknown in the German Parliament. The Government also suffered several defeats in this session before adjournment, notably on the bill providing for the creation of a council of political economists, which had been defeated in the previous session, and now met again with a similar fate.

A question which attracted considerable attention during the year was the admission of Hamburg to the German Customs Union. Hamburg has been for centuries a free port, which had always been surrounded by states that had more or less high import tariffs. Upon the creation of the German Empire, Hamburg insisted on a guarantee that her position should remain unchanged, and this guarantee was accorded her by Article XXXIV of the Imperial Constitution—that the city should remain a free port until it should itself demand to be

admitted to the Customs Union. The people of Hamburg have never shown any desire to make use of this privilege, and the tariff of 1879 only increased their aversion to such a step. The German Government, however, tried by various means to force Hamburg to give up its exceptional position. It threatened to shut off the Elbe by tax-barriers, to erect new and extensive docks at Altona and Glückstadt, which were to become the termini of imperial railways, thus shutting off Hamburg from the German import and export trade. Hamburg finally succumbed to this pressure, and, after some negotiations, a convention was concluded with the empire in May, which in many respects was still favorable to Hamburg. In the first place, the free port was not entirely abolished, but simply restricted to a smaller territory. Secondly, the Government declared itself willing to contribute the sum of at least forty million marks toward effecting the proposed changes. Thirdly, ships are to be allowed, as heretofore, to pass from the sea into the free port without custom-house inspection; and, finally, the supervision between the free port and the protective territory is to be intrusted to Hamburg officials.

The relations of the empire with the other powers of Europe were of the most friendly character. The Emperor in August met Emperor Francis Joseph of Austria, and on September 9th Alexander III of Russia at Dantzic. The latter meeting created considerable excitement, but, as far as known, no political business of any importance was transacted, and the meeting was to be regarded simply as a renewal of the good feeling hitherto existing between the two empires. The Emperor in his speech from the throne, on November 17th, declared that the meetings at Gastein and Dantzic were the expression of the close personal and political relations between the sovereigns and their empires. The confidence thus existing between the three imperial courts was a trustworthy guarantee of peace, which was the identical aim of their policy.

Negotiations with the Vatican were conducted with great activity, and the appointment of Dr. Korum as Bishop of Treves, as well as the new bishops of Fulda and Hildesheim, by the Government of Prussia, was considered as a sign that the Government had made far-reaching concessions to the Vatican in order to conciliate the Center. (See PRUSSIA.) But, notwithstanding this apparent truce, the Catholic Center in Parliament voted against several of Prince Bismarck's favorite plans. Toward the close of the year, Kurd von Schlözer, the German Minister at Washington, was sent to Rome on a special mission, and, it was even said, to reopen the German legation at the Papal court.

On February 27th Prince William, the oldest son of the Crown Prince, was married in the presence of a large assembly to Augusta Victoria, daughter of Duke Frederick of Schles-

wig-Holstein. Princess Augusta was born on January 25, 1860. It is regarded in Germany as particularly happy that the daughter of the dispossessed Duke of Schleswig-Holstein should thus become the future Empress of Germany.

GERMS, VACCINATION WITH DISEASE. Pasteur, in the course of his studies of anthrax and chicken-cholera, has discovered means of inoculating animals with milder forms of both these diseases. This milder infection is found to act as a safeguard against the virulent type of the disease, as vaccination does against the small-pox. The possible importance of the principle established by Professor Pasteur in dealing with the many deadly diseases which are ascribed to the multiplication of minute organisms can not be foreseen. The application of this mode of prevention to splenic fever, one of the most destructive and ineradicable varieties of endemic infection known, has already proved a signal success, and promises to render harmless this scourge of the farm-yard, which destroys five million dollars' worth of domestic animals in France annually, and vast numbers also in the other European countries and in Asia. After Pasteur had obtained the vaccine for this disease, which is called anthrax fever, or splenic fever in English, malignant pustule being one of its forms, and which in other countries is variously named—*charbon* in France, Milzbrand in Germany, and the Siberian pest in Russia—and after he had demonstrated its efficacy by a public experiment, he was not able at first to supply the French farmers fast enough with the virus.

The harmless germs are cultivated from the ordinary malignant ones. The change is due to the prolonged exposure of the bacteria, or microbes, as Pasteur names these pathogenic fungi collectively, to the influence of the oxygen of the atmosphere. Microbes which are cultivated in an infusion have their virulent properties diminished in proportion to the length of the exposure to the air without losing their reproductive faculty. This was proved to be due to the action of oxygen, by the fact that an infusion which is kept hermetically closed for any length of time remains capable of producing the virulent form of infection. When germs are cultivated, as in ordinary experiments, by carrying the infection successively from one infusion to another, there does not usually time enough elapse to allow oxygen to be absorbed by the micro-organisms, in quantities sufficient to modify the virulence of the infection. But by allowing the infusions, the first of which was infected with a minute drop of the blood of a fowl which had died of the *choléra des poules*, to rest exposed for different periods before continuing them in new infusions, it was found that the cultures, when live fowls were inoculated, displayed varying degrees of virulence. Thus it was possible to obtain germs which showed any degree of virulence the experimenter aimed to

produce. From infusions which had been allowed to ripen in this way he could produce any desired proportion of mortality among the chickens infected. By continuing the exposure long enough, the microbes, while still capable of propagating, lost all power of producing the pathological symptoms. By examining the tissue of the infected subject in which the morbid symptoms had been produced in a mitigated form, it was found to contain microbes of almost the same form, size, and appearance of those which cause the fatal disease. These germs of attenuated virulence reveal their presence by a local disorder, which runs a short course and then ceases. The propagation of the disturbing organisms is arrested by the power of nature to overcome the morbid tendency, and the diseased tissue is soon restored to its normal state. These localized and mitigated symptoms, if they have not been too light, have the effect of hardening the system against the disease, so that when the animal which has thus been vaccinated is inoculated with the fatal virus the malady does not appear at all, or is only of a mild and transient type. Fowls which have been fortified against the mortal infection by vaccination will usually resist all the common conditions of contagion for perhaps a year or longer. The microbe of chicken-cholera, like many other infectious microbes, does not propagate by spores or germs, but by a process of scission. One cell forms two or more, which arrange themselves into loop-like forms, and then separate to multiply further. True germs are seldom developed in these cells. Other microbes only multiply by the production of minute germs within the cells. These germs or spores are of infinitesimal size, but are capable of preserving the vital principle of the parent bacteria vigorous and unchanged, under the most adverse conditions, and for a surprising length of time. The microbes which propagate by segmentation, on the other hand, perish of starvation, after a few months, if their aliment is limited. The *Bacillus anthracis* is one of the most vigorous and persistent of the germ-producing microbes. The conditions to the problem of finding a counteracting vaccine, by obtaining a modified type of the organism, seemed much less propitious than in the case of the chicken-cholera. Sheep were infected by cropping grass over a spot where animals which had died of anthrax had been buried twelve years before. The spores had been brought to the surface by earth-worms, and, being taken in with the food of the sheep, developed into active microbes, which produced the fatal symptoms in a few hours. The difficulty was overcome by exposing the bacilli to the influence of oxygen for prolonged periods under conditions which would not allow them to develop the corpuscle-germs. It was found that in a certain kind of infusion of chicken-flesh the propagation of the microbes, which is impossible at the temperature of 45° Cent.,

proceeds at 42° and 43° by the mode of scission, and that no germs are produced at that temperature. The culture did not remain alive more than a month or six weeks. But long before that time the microbes were found to produce in sheep inoculated with them milder forms of the anthrax disease, the violence of the symptoms depending, as in the case with the chicken-cholera, upon the length of the exposure to the action of the air. These attenuated anthracoid microbes acted as a vaccine against the severer grades of the disease. These slender forms of infectious microbes, cultivated under certain conditions, will fully regain their virulent powers; but when obtained in this impoverished state they act as an effective protection against these two fatal diseases, provided they are not too far attenuated to produce the morbid symptoms of the malady in a sufficiently decided form. Two other kinds of vaccine virus have been obtained by this same method of degeneration through excess of oxygenation.

The micro-organism which produces the sheep-disease called *maladie de Chabert* has been separated by some French veterinary physicians and artificially cultivated. If certain graduated quantities are carefully injected into the blood, without contaminating the tissues, it is found that the infection produces but a slight constitutional disturbance, and at the same time so hardens the system of the inoculated animal that it is not subject to subsequent attacks of the disease. The French Government have publicly tested this discovery, which was made by MM. Arloing, Cornevin, and Thomas. Another veterinary surgeon, Galtier, tried the same experiment with the virus of hydrophobia, with which Pasteur has likewise been experimenting. Animals which received the virus directly into their circulation, not only suffered no ill effects, but when afterward inoculated with the hydrophobic virus they were found to be impervious to the infection, while animals which had not been thus protected were invariably seized by the disease when similarly inoculated. The question whether such introduction of the virus into the veins of animals after they have been infected with the disease will avert its development, as the more speedy action of vaccine lymph does in the case of small-pox, is the subject of further experimentation, and seems probable, considering the extreme slowness with which hydrophobic symptoms usually show themselves.

GIRARDIN, EMILE DE, French journalist, died in Paris, of paralysis, April 27th. He was born in Switzerland, in 1802, his mother being Madame Dupuy, the daughter of the Treasurer-General Fagnan. He bore the name of Delamothe until, in 1827, General de Girardin acknowledged him as his son. Emile de Girardin himself supposed, as some who were acquainted with the private life of the First Consul had hinted, that his real father was Napoleon, whom he resembled in feature. Girardin re-

ceived no regular education. He wrote for the press when thrown upon his own resources. A scheme for a cheap daily newspaper, to be sold for a sou, occurred to him in 1830. The popularization of the press became the main object of his thoughts and efforts. He published several cheap magazines, one of which attained an extraordinary popularity. In 1836 he founded the "Presse," the success of which realized his ambition of conducting a newspaper calculated by the character of its contents as well as by its low price to circulate much more extensively among the people than the journals of the time. The "Presse" supported the Orleans dynasty, and was conservative in its tendencies. In resentment of an accusation which was repeated in the democratic newspapers that the "Presse" was subsidized by the Government, Girardin fought a duel with Armand Carrel, mortally wounding his antagonist, and himself receiving a bullet in his thigh. From that day he forswore dueling. One of Louis Philippe's ministers was attacked by Girardin in an article charging him with promising a peerage as a bribe. For this he was tried before the Chamber of Peers in 1847, and unexpectedly acquitted. Through his popular newspaper, Girardin gained great political influence. He entered the Chamber of Deputies in 1834, and was a member almost constantly until 1848. When the revolution of that year broke out, Girardin visited the King and prevailed upon him to abdicate in favor of his grandson. Girardin received the document from Louis Philippe, but it was torn from his hands by the mob, and never known until too late. In 1849 he was again elected to the Chamber, where he voted with the radicals, except in favoring Louis Napoleon's election to the presidency. He condemned the *coup d'état*, but recommended no stronger remedy than a popular demonstration by a cessation of industry and traffic. After a brief exile he was permitted to return. In 1856 he disposed of his share in the "Presse" for a large sum. In 1866 he started the "Liberté," which was subjected to penalties and restrictions for opposing the Government. On the accession of the Ollivier Cabinet, Girardin gave his support to the empire. This culminating act of tergiversation won him the name of the "weathercock," and gave occasion for the jest that Girardin possessed the evil-eye, and his adhesion to a party was a sign of its early fall. In the beginning of the war of 1870 he led the chorus of French boasting and over-confidence. During the Commune, he proposed a scheme for dividing France into fifteen federal states. He became a strong supporter of the republic, and through the columns of the "France," which he founded in 1874, and the "Petit Journal," which he also controlled, he helped to frustrate the royalist plot of 1877. Emile de Girardin married at the outset of his career Mlle. Delphine Gay, a poetess admired for her beauty. In 1856 he took as his second wife

the Countess of Tiffenbach, widow of Prince Frederick of Nassau, from whom he obtained a judicial separation in 1872, also disclaiming the paternity of her child. His earliest essay in literature was a novel containing a plea for illegitimate children. He published during his long journalistic career several pamphlets and collections of articles, and also a number of plays, only one of which, "Le Supplice d'une Femme," in the authorship of which Dumas the younger was joined with him, ever came upon the stage. Girardin wrote in a striking and popular style, and was full of ingenious and original ideas of the kind which are effective in journalism. He inaugurated a new epoch in journalism, and the influence which he exerted upon the character and aims of the newspaper, though not altogether salutary, extended far beyond the boundaries of France. "One idea a day" was the motto which he enunciated in one of his papers. He used to launch forth original propositions, often of a startling character, but which never conflicted with the drift of popular sentiment. Some of his schemes were carried out by dint of the public opinion he created in their favor. He was thus the author of the reduction in the postage. In the tribune he was not effective, being no orator. His last public act was a spirited defense of the cause of General de Cissey in the Chamber.

GLACIAL PERIOD. The cause of the extreme cold which once prevailed in latitudes of the northern hemisphere now embraced in the temperate zone has been a frequent subject of scientific speculation. That a great change in climate has taken place was made evident by the discovery of the marks of glaciers, scratches in the rocks, ridges of detritus pushed up in front of the moving masses of ice, and *débris* deposited by them upon melting, which show that a great part of Europe and America was once within the region of perpetual ice; and also by the numerous fossils of animals which have been found associated with the earliest remains of man, some of still existing and some of extinct species suited to an Arctic habitat. The problem was complicated by the discovery in the same geological strata with animals which were adapted to an extremely cold climate, such as the reindeer and the musk-ox, of others whose habits were suited to all kinds of climate from the frigid to the tropical. In the same geological period with the above species lived, not only man, but the mammoth and the woolly rhinoceros, the grizzly bear and the Irish elk, the cave-lion and the hyena, and even the hippopotamus, which could only have flourished in a warm climate.

The occurrence of Arctic plants in the mountainous regions of lower latitudes, and of fossil plants of warmer climes in the tertiary deposits of the polar regions, presents a striking confirmation of this theory of extreme oscillations of climate. Fossil remains of the tertiary forests of deciduous trees have been collected by travelers in Arctic America, Siberia, Spitz-

bergen, and other lands. They included not only the genera now common to both continents of the northern hemisphere—the planes, beeches, maples, ashes, etc.—but also genera which are now of rare occurrence or narrow distribution, such as sequoia, liquidambar, magnolia, tulip-trees, ginkgos, and the like. In the Antarctic hemisphere as well as in the Arctic, the distribution of plants bears evidence of the influence of glacial causes. The flora of the islands of the Antarctic Ocean reappear in the mountains of Chili. The plants of the south temperate zone are found growing on the mountains of the tropics, those of the Cape in the African lake-region, Australian genera on Kini-Balu in Borneo, New Zealand types in the highlands of New Caledonia, etc. Fossil tree-trunks found in Kerguelen's Island prove that the climate there was once warmer than at present.

The astronomical cycles of variation in the obliquity of the ecliptic and in the eccentricity of the earth's orbit taken together are commonly assigned now as the cause of the glaciation of Europe as far down as Switzerland, and of North America to New Jersey, and also of the enormous changes in climate of which the glaciation seems to have been one of the stages. Recent calculations of these astronomical periods by Croll and Stone are of interest as bearing upon the duration of the Pliocene and Quaternary periods, and upon the question of the antiquity of man. The cycle of the obliquity of the ecliptic is 21,000 years. During one half of each such period the northern hemisphere is colder than the southern, and during the other half the latter is the coldest. The northern hemisphere receives the greater share of heat at present, and in consequence an accumulation of ice is taking place at the south pole. The climatic changes due to the oscillations of the obliquity of the earth's orbit are, however, very slight in the present form of the orbit. But the form of the ellipse is subject to periodical variations, the eccentricity changing from .016, as at present, to .57. When the earth's path is nearly circular, as it now is, the differences in temperature between the hemispheres due to the oscillations of the ecliptic are almost nothing. When the eccentricity of the orbit was considerable, the effect of these oscillations in producing variations in climate which complete their cycle in periods of 21,000 years, must have been very much increased. The changes in the eccentricity of the earth's orbit have been calculated for the last million years. During the period commencing 300,000 and ending 100,000 years ago, the eccentricity ranged between .26 and .57. During that period wide variations of climate must have taken place, ranging, when the eccentricity was greatest, between a sub-tropical and an Arctic climate in the successive periods of 10,500 years in the latitudes of Paris or Boston. During a considerable part of this period

there are supposed, therefore, to have been a succession of glacial epochs between which occurred epochs when the mean temperature went as much higher as in the stage of greatest cold it stood lower than the present mean temperature. At the end of this period, when the variations were least, the mean temperature of the coldest month is estimated to have been 20° Fahr. less in the latitude of London than now, and the summer twenty days shorter at the cold epoch of the cycle. The excavation of the basins of lakes is now ascribed to glacial action. Professor Ramsay divides lakes into three classes: those which are due to irregular accumulations of drift, and which are generally very shallow; those formed by moraines; and those occupying true basins, which have been scooped out of the rocks by glacier ice. The glaciers which, according to this theory, formed the basins of the Swiss and Italian lakes must have been of enormous size, the Lake of Geneva being 984, the Lake of Brienz 2,000, the Lake of Como 1,929, and Lago Maggiore 2,625 feet deep. The ice which formed the valley of Geneva Lake must have been at least 2,700 feet thick.

GLUCOSE. Glucose and grape-sugar are the terms employed to designate the saccharine constituents of grapes and other fruits, and honey, the sugar of malt, and the saccharine products which are artificially formed from the starches. In ordinary commercial usage, glucose is employed exclusively as the name of the thick sirup which is made from corn-starch, while *grape-sugar* is applied to the solid product from the same source. In chemistry the term *glucose* is used to describe either substance, the composition of which may be equally indicated by the formula $C_6H_{12}O_6 + H_2O$.

Chemists distinguish between two kinds of glucose: dextroglucose, which turns the plane of polarization to the right; and lævoglucose, which turns it to the left. Dextroglucose, with which commercial glucose is identified, has received various names, such as granular sugar (*Krümeltzucker*), grape-sugar, fruit-sugar, honey-sugar, starch-sugar, diabetic sugar, sugar of urine, chestnut-sugar, rag-sugar, etc. It occurs abundantly in sweet fruits, frequently together with cane-sugar and lævo-rotatory fruit-sugar, but is only rarely isolated in nature; in honey, with cane-sugar and inverted sugar; and in many animal liquids and tissues. Dextroglucose separates from its aqueous solution in white, opaque, granular, hemispherical or cauliflower-shaped masses, consisting of a hydrate. From alcohol of 95 per cent and upward it separates in anhydrous, microscopic, sharply defined needles, which are, however, often mixed with small portions of the hydrate, and which melt at 284° to a colorless, transparent mass. Anhydrous glucose is also obtained as a white powder by heating the hydrate to 131° or 140° in a stream of dry air, and as a fused transparent mass by heating the hydrate to 212°. Dextroglucose is much less soluble in

water than cane-sugar, requiring for solution one and a half times its weight of cold water, but dissolves in all proportions in boiling water, forming a sirup which has a very sweet taste, but is not as ropy as the sirup of cane-sugar. It is also less soluble than cane-sugar in alcohol; and the solution, saturated at the boiling heat, deposits crystals which retain a portion of the alcohol with considerable force. Lævoglucose is isomeric with dextroglucose, but is distinguished from it by turning the plane of polarization in the opposite way, or to the left. It occurs, together with dextroglucose, in honey, in many fruits, and in other sacchariferous vegetable organs. The mixture of these two sugars in equal numbers of atoms constitutes fruit-sugar, or inverted sugar, which is itself lævo-rotatory, because the specific rotatory power of lævoglucose is greater than that of dextroglucose. It is a colorless, uncrystallizable sirup or amorphous solid mass, is as sweet as cane-sugar, acts as a purgative, and is more soluble in alcohol than dextroglucose.

Commercial glucose is a thick, tenacious sirup of a yellowish tint, or almost colorless, with an average specific gravity at 20° C. or 68° Fahr. of 1.412. That which is made for summer consumption is a little more dense than that manufactured for winter use. The sweetness of glucose varies greatly with different specimens, and depends inversely on the extent to which chemical changes are allowed to proceed in the manufacture, that resulting from processes in which the conversion is stopped as soon as the starch has all disappeared having the maximum of sweetness. If the manufacture has been well conducted, the grape-sugar made from corn-starch is at first of a pure white color, but has a tendency to assume a yellowish tint when old. It is hard and brittle, does not usually take on a visible crystalline structure, and dissolves more slowly in water than cane-sugar. Its specific gravity has been found to be as high as 1.6. It is much less sweet than cane-sugar, and leaves a faint but perceptible bitter taste when dissolved in the mouth.

The manufacture of glucose has attained a very considerable magnitude, indicating an extensive use of the sugar and the sirup in the arts and in trade. Nineteen factories were in operation or ready to go into operation during 1881, in the States of New York, Ohio, Illinois, Michigan, Iowa, and Missouri, which together had a capacity for consuming more than thirty-five thousand bushels of corn daily, and eleven million bushels during the year. The works are estimated to represent more than two million dollars of capital, and to give employment to twenty-one hundred men.

Glucose is made at the factories from Indian corn by the conversion of the starch in the grain through the action of sulphuric acid, between twenty-six and thirty-two pounds being obtained from a bushel of corn. The corn is first soaked for two or three days in warm water, and is then ground on specially

prepared stones with a stream of water. The meal is next passed into a trough, the bottom of which is made of fine bolting-cloth, where the starch is washed through, after which it is led to large tanks and allowed to settle. After being beaten up with caustic soda to effect a separation of the gluten, the starch is again allowed to settle in long, shallow troughs. Having been washed free from all adhering alkali, it is next beaten up with water into a cream and conducted into the converting-tubs, which are made of wood, and are supplied with coils of copper steam-piping. In these the starch-cream is treated with dilute sulphuric acid, and steam is allowed to bubble up through the mixture from small holes in the copper pipes. This is the "open-conversion" process, and is completed in about two hours. In the "close-conversion" process, which occupies about fifteen minutes, the substances are inclosed in stout copper cylinders, and subjected to the action of superheated steam. The conversion is sometimes accomplished by fermentation, but this process requires a much longer time. The "open-conversion" method is the more usual one. After conversion the acid that has been used is neutralized by marble-dust, or by the carbonate of baryta and animal charcoal. The liquid is then filtered through cloth and animal charcoal, and is conveyed to the vacuum-pan, where it is evaporated at as low a temperature as possible, till the required degree of concentration is reached. If grape-sugar is to be made, the process of conversion, instead of being stopped as soon as the starch has disappeared, is carried on still further to a point which can be determined only by trial. After concentration, the liquid is conveyed into tanks, where the process of solidification is accomplished after several days. The sirup-glucose will not harden, except partially, and after many months, whatever the degree of concentration may be short of that necessary for the formation of sugar. Glucose and grape-sugar are sometimes bleached with sulphurous acid, but the practice is objectionable on account of the liability of that acid to form by oxidation free sulphuric acid, and leave it in the product as a dangerous impurity. Glucose, as formed in the earlier stages of the process, may be considered as a mixture of several chemical substances, among which are dextrine, genuine glucose, and a substance isomeric with cane-sugar; and it is on account of the presence of the last substance that the poorly converted glucoses are sweeter than the well converted.

Glucose is used chiefly for the manufacture of table-sirups and candies, for brewing, as food for bees, and for artificial honey. The actual amount of it employed for any of these purposes can only be estimated, for its use is unpopular, and manufacturers are unwilling to give information on the subject. It is certainly used extensively and in an increasing degree in brewing, where the artificial product may

be made to take the place of the glucose which is naturally developed in malting. All soft candies, wax, and taffies, and a large proportion of stick-candies and caramels, are made of glucose. Very often a little cane-sugar is mixed in to give a sweeter taste to the candies, but the amount of this is made as small as possible. The glucose which is made for this purpose is much thicker and denser than the ordinary glucose, it having a specific gravity that may reach 1.440, with a percentage of water as low as 6.37. A large percentage of all the glucose made is used in the manufacture of cane-sirups. In this manufacture, the glucose is mixed with some kind of cane-sugar sirups until the tint reaches a certain standard, the amount of the latter substance varying from three to ten per cent, according to circumstances. These sirups are graded according to the depth of the tint, as "A," "B," "C," etc., and are sold in the shops under various fanciful names. It is said that by reason of their cheapness, and their acceptable qualities, they have driven all the other sirups out of the market. Glucose is very extensively fed to bees, which eat it with great avidity, and store it away unchanged as honey. It is also put up directly in trade as honey—with which bees have had nothing to do—being put by means of appropriate machinery into artificial combs made of paraffine. Glucose is also employed in the preparation of condensed milk, and small quantities of it are used by vinegar-makers, tobaccoists, wine-makers, distillers, mucilage-makers, and for some other purposes.

Grape-sugar is also used for most of the purposes to which glucose is applied, but chiefly for the adulteration of other sugars. When it is reduced to fine powder it can be mixed with cane-sugar in any proportion, without altering its appearance, and, as it costs less than half the price of cane-sugar, the adulteration is immensely profitable.

The question whether glucose is deleterious as an article of food, which has been much discussed in the press and in public bodies, is answered, by those who have given the subject a scientific examination, in the negative. In chemical composition, glucose is identical with the natural sugars of fruits and honey which are universally accepted as wholesome foods. According to Professor W. S. Haines, of Rush Medical College, it differs from cane-sugar, so far as its physiological action is concerned, in that cane-sugar, when eaten, has to be converted into glucose before it can be assimilated, while the glucose itself is already in a condition to be assimilated directly. Professor Harvey W. Wiley, who has given special attention to the subject, and has read a paper upon it before the American Association for the Advancement of Science, does not hesitate to say that a glucose which is properly made is a salutary article of food, and that there is no reason to believe that when thus manufactured

it is any less wholesome than cane or maple sugar. It has been objected that the substance when not properly made contains impurities, one of which, free sulphuric acid, is poisonous; and Dr. R. C. Kedzie, of the Michigan State Board of Health, states that he has found in one sample 71.83 grains of free sulphuric acid, .28 grain of sulphate of iron, and 363 grains of lime to the gallon. Professor Haines has shown, however, that it is to the direct interest of manufacturers, for the sake of the preservation of their apparatus and the salability of their product, to prevent the possibility of any free acid remaining after manufacture, and that for that reason they are accustomed to use much more marble-dust than is necessary to neutralize the acid. Professor Wilcy says that a properly made glucose contains only a very little sulphuric acid and lime, "not much more than good spring-water, and perhaps an almost infinitesimal trace of copper, so slight as only to be detected in large quantities of the substance." He does not doubt, however, that glucoses "have been sold which contain large quantities of free sulphuric acid, and likewise other injurious ingredients. But these are due to carelessness in manufacture, and are not constituents of the genuine article. I have never found a glucose of this kind." A more valid objection to the use of glucose is, that it is employed as an adulterant, and is sold to consumers under the representation that it is a better and more valuable article than it is, and for several times its actual value. According to Dr. Kedzie, one gallon of sirup made from sugar-cane has more sweetening power than four gallons of glucose-sirup; consequently, if cane-sirup is worth one dollar a gallon, glucose-sirup should be sold for not more than twenty-five cents a gallon.

Glucose presents several anomalies when examined with polarized light. Its highest rotatory power is found when it is made with the least possible amount of conversion; continued boiling with dilute acid causes a gradual decrease of rotatory power; and a constant rotatory power, equivalent to about one half the maximum power exhibited by the substance, is reached only after from six to eight hours' heating at a temperature of 104° C., or 219° Fahr. The minimum rotatory power is, however, greater than that possessed by cane-sugar. Glucose has the property, which always acts inversely as the rotating power, of reducing a hot alkaline copper solution and separating the metal as a red sub-oxide.

The ordinary chemical tests for glucose are based upon the following reactions: 1. It is colored a dark brown by potash-lye, while cane-sugar is not so colored; 2. Basic nitrate of bismuth gives a black-brown coloration to the solution of glucose mixed with carbonate of sodium, and causes a grayish-brown precipitate from it; 3. Glucose reduces cupric salts immediately, whereas the reduction takes place more slowly with cane-sugar; 4. It produces a

decoloration of the alkaline solution of ferrocyanide of potassium, while cane-sugar does not; 5. The non-production of a violet-blue precipitate with nitrate of cobalt and caustic alkali indicates the presence of glucose in a solution previously known to contain cane-sugar; 6. Glucose alone in the solid state, or as a strong sirup, dissolves in strong sulphuric acid without coloration, while cane-sugar, if present, is blackened and decomposed.

Mr. P. Casamajor has described some easy processes for the detection of starch-glucose in commercial refined sugar and in sugar-house molasses. When the adulterant is present in sugar, in large enough quantities to make its use profitable, it may be readily detected with the optical saccharometer. It is a dextro-gyrate substance, and the only substance of that character that can be used in so large quantities to adulterate sugar. Somewhat less than its own weight of water is added to the suspected sugar, and the mixture is stirred for a few seconds. If starch sugar is present, it will be seen floating in the solution as white specks resembling crushed wheat. The appearance is due to the comparative insolubility of starch-glucose in cold water, and to the fact that as the cane-sugar present is crystalline, and its refrangibility is not very different from that of a sugar solution, the part of it which remains undissolved is not so distinctly seen as are the specks of starch-sugar. The specks are best seen by using a beaker glass and putting in only as much sugar and as much water as will allow the light to show through the flat bottom of the glass. If a flat-bottomed glass is not at hand, the observation may be made on a flat pane of glass. Another process is based on the fact that the taste of sugar has a tendency to dull the perception of the taste of other substances that may be mixed with it. In order to neutralize this effect we may, before tasting a suspected sample, put a pinch of pure sugar into the mouth. If, after this sugar is dissolved, but while its sweet taste is still perceived, we put on the tongue a pinch of sugar containing starch-glucose, we may distinctly perceive the bitterish taste of the glucose. The presence of chloride of tin in molasses and sugars, even when it is used in very small quantities, can be likewise easily detected by its unpleasant bitter taste, if, before tasting the suspected products, the mouth is filled with the pure sweet taste of refined cane-sugar. The adulteration of sugar-house molasses may be detected by the use of strong methylic alcohol. A straight sugar-house sirup mixed with three times its volume of this spirit will dissolve by stirring, except for a very slight turbidity, which remains suspended; while sirups containing the usual admixture of starch-sugar give a very turbid liquid, which separates when left at rest into two layers, of which the lower one is a thick, viscous deposit containing the glucose-sirup. A thin sirup (about 32° Baumé), in which the proportion of sugar to

the impurities is greater than in sugar-house molasses, and of which considerable quantities are sold, gives under the same test a marked turbidity, and a deposit of hard and gritty crystals of pure sugar on the sides and bottom of the vessel, which does not at all resemble the precipitate of starch-sugar sirup. The presence of starch-glucose in a molasses of about 40° Baumé may be easily detected by the optical saccharometer; but the direct test should show a percentage of sugar not higher than the number of Baumé degrees indicating the density, and it may be two or three per cent lower. Adulteration may also be detected by the copper test. The validity of these tests rests upon the supposition that the adulterant is added in the usual large quantities. A very small addition would not be perceived.

The "National Glucose and Grape-Sugar Association" was organized by a convention in which all the manufacturers of the United States were represented, which met in Chicago, Illinois, January 11, 1882. Mr. J. A. Cunningham, of Danville, Illinois, was chosen president, and Mr. J. Fermenich, of Buffalo, New York, vice-president of the body.

GOULD, THOMAS R., born in Boston; died in Florence, Italy, November 26, 1881. In his early life Mr. Gould was engaged with his brother in the dry-goods business, and was an active member of the Mercantile Library Association. He did not devote himself to art until he had attained quite a mature age. His only master was Seth Cheney, in whose studio he modeled his first figure in 1851. He followed his profession in Boston until 1868, and among the works which he produced were two colossal heads representing "Christ" and "Satan," both of which were shown at the Boston Athenæum in 1863. James, in his "Art Thoughts," mentions the "Christ," in its character of an opposing conception to "Satan," as "one of the finest felt and conceived idealisms in modern sculpture." Previous to the civil war, Mr. Gould had acquired a moderate fortune, which he lost in the exigencies of the succeeding crisis. In 1868 he went to Italy and settled with his family in Florence. There he devoted himself to study and work. One of his most celebrated statues is "The West Wind," that has been several times reproduced, and was brought into special prominence in 1874, through a letter written to the New York "World," by Stephen Weston Healy, who charged certain American artists in Italy, among whom he named Mr. Gould, with fraud and charlatanry—saying that "The West Wind" was a reproduction of Canova's "Hebe," with the exception of the drapery, which was modeled by Signor Mazzoli. Animated newspaper correspondence followed this charge, and it was proved groundless. Mr. Gould declared that his designs were all and entirely his own, and that not a statue, bust, or medallion was allowed to leave his studio until finished in all points on which depended their character and

expression. Among Mr. Gould's works are a number of portrait busts, including one of Emerson, now in Harvard University Library; one of William Monroe, in the Concord Library; one of John A. Andrew; one of Seth Cheney, owned by Mr. John Cheney, of Connecticut; and one of the elder Booth, in Booth's Theatre, New York. In statuary he has produced "Cleopatra," "Timon of Athens," "Ariel," a portrait statue of John Hancock, which was exhibited at the centennial celebration of the battle of Lexington in 1875, and is now in Lexington Town Hall. His portrait statue of John A. Andrew was placed in the Hingham Cemetery, by the Grand Army of the Republic. In 1878 Mr. Gould visited Boston, and exhibited "The Ghost in Hamlet," a front view of a large head in *alto rilievo*. The two *alti rilievi* representing "Steam" and "Electricity," which flank the vestibule of the "Boston Herald" building, are among his latest works.

GRAPE-CULTURE IN THE UNITED STATES. The culture of the grape in the United States is a matter of increasing interest and importance. Efforts have been made on the part of the Department of Agriculture under Government to obtain accurate information as to the extent of this culture, the surface planted in vines in the different States, and the quantity and value of the production of wine in our vast and varied country. The importance of the grape-culture is shown by noting the fact that about 5,000,000 gallons of wine are every year imported into the United States at a cost of about the same number of millions of dollars. Statistics show that, in California, over 32,000 acres are planted in vines; 13,500,000 gallons of wine are produced; estimated value, \$4,047,000. New York ranks second, in having 12,646 acres planted with vines, yielding, however, only 584,148 gallons, valued at \$387,308. Ohio has nearly 10,000 acres under this culture, yielding over 1,500,000 gallons; estimated value, \$1,628,000. Missouri ranks fourth in the number of acres planted, i. e., 7,376, which yield 1,824,000 gallons, at a value of \$1,320,000. Georgia has about 3,000 acres planted, producing over 1,000,000 gallons, at a value of some \$800,000. Other States have more or less space devoted to the culture of the grape, as is shown in the tables prepared by the Government authorities, the total being, in all the States, 181,583 acres planted, 23,453,827 gallons produced; estimated value, \$13,426,174.87.

In California some of the fruit finds its way to the markets for table consumption; the raisin industry consumes an important proportion, and a considerable quantity is worked up for the still. The vines being generally free from disease, and planted more closely, the yield per acre in fruit and wine is much greater than prevails east of the Rocky Mountains. Some sections of the State are affected by the phylloxera, but vigorous measures are being taken to restrain its ravages. But this is about

the only source of injury to the vines in the State, and the acreage in vineyards is constantly increasing. California produces, in fact, nearly two thirds of all the wine made in the United States. It may be noted here that, though this industry is not so concentrated as in California in any of the States east of the Rocky Mountains, and though there is no section in these States so free from diseases and in which the yield per acre is so great, yet, on the other hand, the Eastern vintners receive their measure of reward in the higher prices obtained for their products, being nearer the localities of consumption. The total value of the wine produced east of the Rocky Mountains is more than twice as great as that produced in California, while the product in the latter is at least from three to four million gallons greater than in the former. The total result certainly shows the importance of this industry, and its rightful claim to all due encouragement.

During the last ten years it appears that comparatively little change has been made with reference to the kind of grapes grown in the Eastern States. Of the red grapes the Concord and Ives seedling, and of the white ones the Catawba and Delaware, seem to be the favorites through the Northern States. Other varieties, as those of the Labrusca, prevail in some vicinities, and wherever the Norton's Virginia have been tried they seem to have given good results. They are found to be hardier against attacks from insects, mildew, rot, etc., while, if they yield less in quantity than the Concord, the quality of the product is found to be superior. In the States south of the 35th parallel the Vulpina and the Candicans are the favorites on account of their abundant production, the easiness of their culture, and their freedom from disease. Other varieties are being introduced, but are not likely to supersede the native varieties, at least for years to come. The diseases which attack American vines are much the same as those which afflict foreign vineyards, and every effort is being made to meet and counteract them.

GREAT BRITAIN AND IRELAND, a kingdom of Western Europe. The Queen, Victoria, was born May 24, 1819. She is a daughter of Prince Edward, Duke of Kent, the fourth son of George III; succeeded her uncle, William IV, in 1837; and married in 1840 Prince Albert of Saxe-Coburg-Gotha.

Children of the Queen.—1. Princess Victoria, born November 21, 1840; married in 1858 to the present Crown Prince of Germany. 2. Prince Albert Edward, heir-apparent, born November 9, 1841; married in 1863 to Princess Alexandra, daughter of King Christian IX of Denmark. Issue, two sons and three daughters; eldest son, Albert Victor, born January 8, 1864. 3. Prince Alfred, Duke of Edinburgh, born August 6, 1844; married in 1874 to the Grand Duchess Maria of Russia. He is heir-apparent to the Duke of Saxe-Coburg-Gotha. He has

issue, one son and three daughters. 4. Princess Helena, born May 25, 1846; married in 1866 to Prince Christian of Schleswig-Holstein-Sonderburg-Augustenburg. 5. Princess Louise, born March 18, 1848; married in 1871 to the Marquis of Lorne. 6. Prince Arthur, Duke of Connaught and Strathearne, born May 1, 1850; married March 13, 1879, to Princess Louise Margarethe, daughter of Prince Frederick Charles of Prussia. 7. Prince Leopold, born April 7, 1853. 8. Princess Beatrice, born April 14, 1857.

The Cabinet was composed as follows in the year 1881: First Lord of the Treasury and Chancellor of the Exchequer, Right Hon. W. E. Gladstone, M. P.; Lord High Chancellor, Lord Selborne; Lord President of the Council, Earl Spencer; Lord Privy Seal, Duke of Argyll; Secretaries of State: 1. Home Department, Right Hon. Sir Vernon-Harcourt, Baronet, M. P.; 2. Foreign Affairs, Earl Granville; 3. Colonies, Earl of Kimberley; 4. War, Right Hon. Hugh C. E. Childers, M. P.; 5. India, Marquis of Hartington, M. P.; First Lord of the Admiralty, Earl of Northbrook; Chancellor of the Duchy of Lancaster, Right Hon. John Bright, M. P.; Chief Secretary for Ireland, Right Hon. W. E. Forster, M. P.; President of the Local Government Board, Right Hon. John G. Dodson, M. P.

The area and population of the British Empire are as follows:

COUNTRIES.	Area in square miles.	Population.
United Kingdom	121,608	35,246,562 (1881)
India and Ceylon	904,800	188,599,679 (1872)
Colonies and possessions	6,730,519	12,492,150
Total British Empire	7,756,927	286,338,391
Tributary states in India.	604,590	54,211,158
Total empire and dependencies	8,361,517	290,549,549

The population of Great Britain and Ireland, according to a preliminary report on the census taken in 1881, was as follows:

COUNTRIES.	Male.	Female.	Total.
England	11,947,726	12,660,665	24,608,391
Wales	677,028	682,867	1,359,895
Scotland	1,797,565	1,936,805	3,734,370
Ireland	2,522,804	2,637,035	5,159,839
Isle of Man	25,646	27,846	53,492
Channel Islands	40,834	47,397	87,731
Soldiers and sailors abroad	242,844	.....	242,844
Total	17,253,947	17,992,615	35,246,562

The increase of population from 1821 was as follows:

YEARS.	Population.	INCREASE.	
		Total.	Annual rate per cent.
1821	21,272,187	.....	.....
1831	24,392,485	3,120,298	1·87
1841	27,057,923	2,665,438	1·04
1851	27,745,949	688,026	0·25
1861	29,321,283	1,575,339	0·55
1871	31,845,379	2,524,091	0·82
1881	35,246,562	3,401,183	1·01

The increase of population in the different countries, from 1871 to 1881, was as follows:

COUNTRIES.	Census of 1871.	Census of 1881.	INCREASE (I.) OR DECREASE (D.).	
			Total.	Annual rate.
England.....	21,495,131	24,608,891	I. 3,113,260	I. 1.35
Wales.....	1,217,185	1,359,595	I. 142,760	I. 1.11
Scotland.....	3,860,018	3,734,870	I. 374,352	I. 1.05
Ireland.....	5,412,377	5,159,889	D. 252,588	D. 0.48
Isle of Man.....	54,042	53,492	D. 550	D. 0.09
Channel Islands.....	90,596	87,731	D. 2,865	D. 0.32
Soldiers and sailors abroad.....	216,080	242,844	I. 26,764	.....

The following table gives the area of the United Kingdom in 1871, and the estimates of the population by the Registrar-General (who

does not include the islands in the British waters, nor the soldiers and sailors abroad), for 1879, 1880, and 1881:

COUNTRIES.	Square miles.	Population in 1879.	Population in 1880.	Population in 1881.
England and Wales.....	58,311	25,165,336	25,480,161	25,798,922
Scotland.....	30,463	3,627,453	3,661,292	3,695,456
Ireland.....	32,531	5,362,337	5,327,099	5,294,436
Islands in the British waters.....	808	145,000	145,000	141,223
Soldiers and sailors abroad.....	.....	216,000	216,000	242,844
Total.....	121,605	34,516,126	34,829,552	35,172,951

The number of emigrants from the United Kingdom during the years 1853-1880 was as follows:

NATIONALITIES.	To United States.	To British North America.	To Australia and New Zealand.	To other countries.	Total.
English.....	1,110,554	222,600	560,945	136,053	2,030,152
Scotch.....	199,789	78,552	138,086	18,876	435,263
Irish.....	1,715,241	130,542	237,051	15,182	2,095,016
Foreigners.....	743,703	102,716	23,762	32,182	902,363
Not specified.....	170,645	52,860	30,899	58,243	312,647
1853-1880.....	3,939,942	587,270	990,693	260,536	5,778,441
1815-1880.....	6,004,523	1,628,984	1,301,529	311,997	9,242,033

The number of emigrants from the United Kingdom in 1880 was as follows:

NATIONALITIES.	To United States.	To British North America.	To Australia and New Zealand.	To other countries.	Total.
English.....	69,081	13,541	15,176	14,047	111,845
Scotch.....	14,471	3,221	3,059	1,305	22,056
Irish.....	83,018	4,110	5,949	534	93,641
Foreign.....	88,801	8,434	1,253	1,881	100,369
Not specified.....	1,903	4	1	2,475	4,383
Total.....	257,274	29,340	25,438	20,242	332,294

According to the census of 1881, the population of Ireland was divided as follows among the different denominations:

Roman Catholics.....	3,951,888
Church of England.....	635,670
Presbyterians.....	485,503
Methodists.....	47,669
Jews.....	453
Others.....	38,656

In the other parts of the United Kingdom an enumeration of the different denominations is not made.

The cities with more than 40,000 inhabitants, according to the census of 1881, were as follows:

London.....	3,814,571	Birmingham.....	400,757
London, with sub-urbs.....	4,764,312	Manchester.....	341,508
West Ham.....	123,692	Salford.....	176,233
Liverpool.....	552,425	Dublin (Ireland).....	338,579
Glasgow (Scotland).....	511,532	Leeds.....	309,126
		Sheffield.....	234,410

Edinburgh (Scotland).....	228,190	Southampton.....	60,235
Leith (Scotland).....	61,163	Stockport.....	59,544
Bristol.....	206,503	Bursley.....	58,882
Bradford.....	183,032	Walsall.....	58,808
Belfast (Ireland).....	174,394	St. Helen's.....	57,234
Hull.....	154,250	South Shields.....	56,922
Stoke-upon-Trent.....	152,457	Bromwich.....	56,299
Newcastle.....	145,223	Paisley (Scotland).....	55,642
Gateshead.....	65,873	Ystradyfodwg (Wales).....	55,617
Dundee (Scotland).....	142,454	Middlesborough.....	55,288
Portsmouth.....	127,953	York.....	54,198
Leicester.....	122,351	Aston Manor.....	53,894
Sunderland.....	116,262	Northampton.....	51,880
Nottingham.....	111,631	Bath.....	51,790
Oldham.....	111,343	Bury.....	51,532
Brighton.....	107,528	Ipswich.....	50,762
Bolton.....	105,422	Merthyr-Tydvil.....	48,857
Aberdeen (Scotland).....	105,054	Hanley.....	48,354
Blackburn.....	104,012	Wigan.....	48,196
Preston.....	96,532	Barrow-in-Furness.....	47,111
Norwich.....	87,843	Chatham.....	46,806
Birkenhead.....	83,324	Rochester.....	21,590
Cardiff.....	82,573	Tottenham.....	46,441
Huddersfield.....	81,825	Dudley.....	46,293
Croydon.....	78,947	Great Yarmouth.....	46,211
Cork (Ireland).....	78,642	Cheltenham.....	43,972
Derby.....	77,636	Tynemouth.....	43,863
Wolverhampton.....	75,738	Hastings.....	42,256
Plymouth.....	75,096	Coventry.....	42,111
Devonport.....	63,870	Reading.....	42,050
Halifax.....	73,633	Warrington.....	41,456
Greenock (Scotland).....	68,897	Stockton-on-Tees.....	41,040
Rochdale.....	68,865		
Swansea.....	63,739		

The growth of London since 1801 has been as follows:

1801.....	958,863	1851.....	2,362,236
1811.....	1,138,815	1861.....	2,803,939
1821.....	1,378,947	1871.....	3,254,260
1831.....	1,654,994	1881.....	3,814,571
1841.....	1,948,417		

The receipts and expenditures from 1875 to 1881 were as follows:

YEARS.	Receipts.	Expenditures.	Surplus (S.) or Deficit (D.).
1875-'76.....	£77,131,693	£76,621,773	S. £509,920
1876-'77.....	78,565,036	78,125,227	S. 439,809
1877-'78.....	79,763,298	82,408,495	D. 2,640,197
1878-'79.....	83,115,972	85,407,789	D. 2,291,817
1879-'80.....	81,265,055	84,105,754	D. 2,840,699
1880-'81.....	84,041,288	83,107,924	S. 933,364

The revenue for the year ending March 31, 1881, was as follows:

SOURCES.	Gross receipts.	Delivered to the Exchequer.
1. Customs	£19,356,915	£19,184,000
2. Excise	27,401,164	25,800,000
3. Stamps	12,145,804	11,940,000
4. Land-tax and house-duty	2,765,351	2,740,000
5. Property and income tax.....	10,957,525	10,650,000
6. Post-Office	6,722,978	6,700,000
7. Telegraph service.....	1,829,767	1,600,000
8. Crown lands.....	463,438	390,000
9. Interest of sums advanced for local works and the purchase of Suez Canal shares.....	1,247,711	1,247,711
10. Miscellaneous	4,289,577	4,289,577
Total.....	£87,180,230	£84,041,288
Balance of the Exchequer on April 1, 1880		3,273,429
Other revenues of the Exchequer (reimburse-ments, loans, etc.).....		31,777,111
Total.....		£119,091,828

The expenditures were as follows:

1. Payments out of the Exchequer for services charged on the consolidated fund:	
Interest and management of debt.....	£21,494,578
Terminable annuities.....	6,852,636
Interest of Exchequer bills.....	101,384
New sinking fund.....	351,402
Interest on loans by Bank of England.....	513,932
Interest and principal of Exchequer bonds (Suez)	199,854
Interest on the Indian loan	61,478
2. Other charges on the consolidated fund:	
Civil list.....	407,629
Annuities.....	161,000
Pensions.....	149,706
Salaries.....	293,651
Courts of justice.....	595,273
Miscellaneous expenses.....	262,510
3. Civil service:	
Public works.....	1,446,401
Public departments.....	2,251,843
Administration of Justice, Police, etc.....	5,922,443
Public Instruction, Art, Science.....	4,288,214
Foreign Affairs.....	607,036
Pensions, charity, etc.....	1,211,229
Miscellaneous.....	51,562
4. Army and Navy:	
Army services.....	15,558,601
Army services charged on account of troops in India.....	1,100,000
War in Afghanistan	500,000
Navy services.....	10,702,935

5. Charges on the revenue:

Customs.....	£992,491
Internal revenue.....	1,853,000
Post-Office	3,415,200
Telegraph service.....	1,240,000
Post-Office packet service.....	716,934

Total ordinary expenditure.....	£83,107,924
Greenwich Hospital and School.....	153,470
Exchequer bonds paid off.....	5,700,000
Other expenses.....	30,130,434

Total..... £119,091,528

The public debt of Great Britain was as follows at each of the periods mentioned:

MARCH 31.	Funded debt.	Terminable annuities.	Not funded debt.	Total.
1877....	£712,621,355	£49,308,558	£13,943,800	£775,873,713
1878....	710,843,008	46,335,589	20,603,000	777,781,597
1879....	709,430,593	42,778,147	25,870,100	778,078,840
1880....	710,476,359	36,222,976	27,344,900	774,044,235
1881....	709,078,526	37,547,666	22,077,500	768,703,692

The value of the principal articles of import and export was as follows in 1880:

CLASSES OF GOODS.	Imports.	Exports.
Grain.....	£69,459,000	£721,000
Malt and other liquors.....	9,107,000	2,278,000
Colonial produce	44,486,000	1,805,000
Tobacco and cigars.....	2,877,000	.....
Seeds and fruits.....	11,611,000	1,621,000
Animals and animal provisions	49,477,000	2,262,000
1. Articles of food.....	£187,017,000	£8,787,000
Fuel.....	.....	£3,373,000
Minerals and ores.....	£1,774,000	693,000
Raw metals.....	12,144,000	84,466,000
Hairs, hides, and leather.....	14,707,000	1,113,000
Spinning material.....	83,268,000	1,187,000
Wood and timber.....	17,807,000	.....
2. Raw material	£129,700,000	£45,872,000
Pottery and glassware.....	£1,776,000	£2,987,000
Metal manufactures.....	2,156,000	4,132,000
Machines and vessels.....	427,000	40,638,000
Leather, etc.....	1,743,000	3,119,000
Yarn.....	3,160,000	17,143,000
Cordage and twine, woven goods and clothing.....	22,294,000	99,885,000
Paper.....	450,000	1,107,000
Wood-carvings.....	.....	481,000
Manuscripts, articles for printing .....	.....	970,000
3. Manufactured goods..	£32,006,000	£140,462,000
4. Miscellaneous goods..	£62,507,000	£27,939,000
Total merchandise.....	£411,230,000	£223,000,000
Precious metals.....	16,254,000	13,890,000
Total.....	£427,484,000	£241,950,000

The movement of shipping in the foreign and colonial trade was as follows (in tons):

YEARS.	ENTERED.			CLEARED.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
Total entrances and clearances:						
1860.....	6,889,009	5,233,776	12,122,785	7,025,914	5,490,593	12,516,507
1879.....	13,514,550	7,518,042	26,032,592	13,919,441	7,763,417	26,682,858
1880.....	20,490,512	8,583,043	29,073,555	20,858,472	8,804,036	29,662,508
Laden vessels entered and cleared:						
1860.....	5,760,537	4,294,444	10,054,981	6,358,917	4,424,020	10,782,937
1879.....	15,039,579	6,059,765	21,099,344	17,095,146	5,754,211	22,849,357
1880.....	17,018,001	6,975,269	23,993,280	18,869,857	6,817,813	25,685,670
Steamers entered and cleared:						
1860.....	2,145,000	404,000	2,549,000	2,042,000	377,000	2,419,000
1879.....	13,619,092	2,662,351	16,281,443	13,885,925	2,809,646	16,695,571
1880.....	15,290,298	3,020,114	18,310,412	15,685,739	3,217,791	18,903,530

The commercial navy was as follows in 1880 :

SHIPS.	SAILING-VESSELS.		STEAMERS.		TOTAL.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
Number of ships registered :						
United Kingdom	19,938	3,851,000	5,247	2,924,000	25,185	6,575,000
Colonies	12,098	1,647,000	1,656	226,000	13,754	1,873,000
Number of vessels used (exclusive of river-steamers) :						
Coasting.....	10,677	694,000	1,817	236,000	11,994	930,000
Coasting and long voyage.....	988	133,000	179	69,000	1,167	202,000
Long voyage	4,518	2,924,000	2,298	2,259,000	6,811	5,213,000
Total.....	16,183	3,751,000	3,789	2,594,000	19,972	6,345,000

The following table gives the postal statistics for the year ending March 31, 1881, discriminating between the letters, postal cards, newspapers, and money orders :

ARTICLES.	England and Wales.	Scotland.	Ireland.	Total.
Letters	992,000,000	105,000,000	79,000,000	1,176,000,000
Postal-cards.....	104,000,000	13,000,000	6,000,000	123,000,000
Newspapers and printed matter	315,000,000	39,000,000	23,000,000	382,000,000
Money orders :				
1. To United Kingdom.....	14,200,000	1,500,000	1,000,000	16,700,000
2. To foreign countries and colonies .....	.....	.....	.....	200,000
3. From foreign countries and colonies .....	.....	.....	.....	400,000
Amount of money orders :				
1. To United Kingdom.....	£20,837,000	£2,380,000	£1,348,000	£24,515,000
2. To foreign countries and colonies .....	.....	.....	.....	458,000
3. From foreign countries and colonies.....	.....	.....	.....	1,323,000

The following table gives a complete list of the English colonies and possessions in Europe, Asia, Africa, Australasia, and America, show-

ing their area in square miles and population in different years, together with a summary of the whole :

COUNTRIES.	Square miles.	Population.	Year.	COUNTRIES.	Square miles.	Population.	Year.
I. EUROPE :				IV. AUSTRALASIA :			
Helligoland.....	0·21	1,918	1871	Queensland.....	663,259	218,159	1881
Gibraltar.....	1·93	13,014	1873	New South Wales.....	308,560	750,800	1881
Malta.....	142·73	154,193	1879	Norfolk Island.....	17	481	1877
Total Europe.....	144·87	174,125	....	Victoria.....	88,451	858,532	1881
II. ASIA :				South Australia.....	380,602	279,615	1881
Cyprus.....	3,707	150,000	....	Northern Territory....	523,581	3,700	1880
British India.....	880,093	186,041,191	1872	Western Australia....	975,824	31,000	1881
Ceylon.....	24,702	2,553,438	1879	Natives in Australia...	.....	55,000	....
Straits Settlements....	1,445	350,000	....	Tasmania.....	26,215	115,651	1881
Hongkong.....	32	155,739	1881	New Zealand.....	104,272	489,561	1881
Labuan.....	30	4,393	1871	Chatham Islands.....	628	43,595	1878
Nicobar Islands.....	634	5,500	....	Maoris in New Zealand	.....	.....	....
Andaman Islands.....	2,503	14,500	....	Auckland Islands.....	197	.....	....
Laccadive Islands.....	744	6,800	....	Lord Howe's Island...	3·2	65	1880
Curia-Muria Islands...	21	.....	....	Peejee Islands.....	8,034	120,659	1879
Aden.....	7·71	22,707	1872	Fanning Island.....	15·4	150	1858
Perim.....	4·55	Doubtful.	....	Starhuck Island.....	1·1	.....	....
Moshah.....	0·4	"	....	Caroline Island.....	2·1	.....	....
Kambaran.....	64	500	....	Malden Island.....	34·4	79	1876
Keeling Islands.....	8·5	400	1853	Rotuma.....	14	2,680	1871
Total Asia.....	933,330	189,346,630	....	Total Australasia....	3,084,660	2,969,777	....
III. AFRICA :				V. AMERICA :			
Cape Colony, inclusive of British Caffraria..	199,950	730,757	1880	Dominion of Canada...	3,205,344	4,352,080	1881
Basutoland.....	8,415	128,176	1875	Newfoundland.....	42,734	161,374	1874
West Griqualand.....	17,491	48,123	1877	Bermudas.....	19·4	13,956	1879
Transkei Territory....	15,573	409,944	1878	British Honduras.....	7,562	24,710	1871
Natal.....	18,750	364,338	1880	Bahama Islands.....	5,390	39,162	1871
Gambia.....	69	14,190	1871	Turk's Islands.....	9·7	2,845	1871
Sierra Leone.....	1,000	38,936	1871	Caiicos Islands.....	213	1,878	1871
Gold Coast.....	15,000	408,070	1872	Jamaica.....	4,193	558,256	1881
Lagos.....	73	60,221	1871	Caymans Islands.....	225	2,400	1871
St. Helena.....	47	6,241	1871	Leeward Islands.....	706	118,821	....
Ascension.....	34	27	1871	Windward Islands.....	830	306,679	....
Tristan da Cunha.....	45	105	1881	Trinidad.....	1,754	153,128	1881
Mauritius.....	739	357,339	1879	British Guiana.....	85,425	248,110	1879
New Amsterdam and St. Paul.....	28·3	.....	....	Falkland Islands.....	4,839	1,431	1879
Total Africa.....	277,214	2,616,467	....	States Island.....	.....	.....	....
				Total America.....	3,859,244	5,954,880	....
				Total British colonies and possessions...	7,635,319	201,091,829	....

The actual strength of the military forces, on January 1, 1881, was as follows :

Regular army.....	188,958
Reserves.....	41,796
Militia.....	187,971
Volunteers.....	206,537
Total.....	575,262

The navy, in October, 1881, consisted of 75 ironclads, inclusive of those in the course of construction, about 360 steamers, and 120 sailing-vessels. Of this number 249 were in commission, 123 being at home, and 126 abroad. The navy is manned by 45,100 seamen, 13,000 marines, 18,400 men belonging to the Royal Navy reserve, and 2,750 volunteers; in all, 79,250 men.

For further statistics, see "Annual Cyclopædia" for 1880, article GREAT BRITAIN.

The subject of Irish land-reform and the new Liberal scheme for the settlement of the perennial Irish question, overshadowed all other public questions of the year in Great Britain. The Government bill was carried through Parliament without serious alterations. On account of it all other parliamentary business was postponed to the next session.

The Government not only occupied the always difficult and ungrateful position of the responsible authorities in times of civil contention, when the nation is divided into opposite camps, but were in the humiliating plight of having appealed to Irish discontent when electioneering for office, and of having acknowledged the justice of Ireland's claims, when these involved nothing less than a social revolution. Lord Beaconsfield had announced his plan for dealing with the Irish movement. He would have stamped it out with an iron heel, without any concessions or compromises. The mass of the Liberal voters, the great body of the English people, though still separated by interests and feelings as far from the Irish as from any foreign nation, no longer look upon them as wild barbarians, and can not again be brought to exult in their butchery, as they may in the destruction of Zooloos and Afghans. They were almost indifferent to the result of the settlement as it affected the property rights of either landlords or tenants, and were satisfied to leave everything to the Liberal ministry, confident that while they were at the helm no more massacres would occur in Ireland. The coercive acts passed by Parliament were acquiesced in, the orders to disperse rioters in Ireland with buckshot called forth no protest, and the arbitrary imprisonment of Gladstone's Irish political antagonists was even applauded by the ranks of the party which first inscribed on its banners the maxims of personal liberty and freedom of speech; but no one hoped or feared that this Government would re-enact the sanguinary scenes the memory of which fills the hearts of Irishmen with hatred and excites in nearly every English breast a feeling of remorse. Only among the party of aristocratic sympathies did a trace of the old savage

animosity show itself. The Tories made no political stand in opposition to the land bill. They were conscious that the cause of the landlord class is scarcely less popular in England than in Ireland, and feared to precipitate a crisis in which the constitution of the House of Lords might be swept away and the fires of a land revolution be kindled in England. They therefore contented themselves with an empty parade of the legislative functions of the Peers, and with protests against the principles of the measure which merely echoed the doctrines of property ingrafted upon British thought long before by the philosophers of the opposite party. But, unable though they were to apply the means by which Irish agitation had been put down in the past, the Ministerial party were in a not less helpless position. The Irish party and the Conservatives had no difficulty in showing, in spite of Gladstone's brilliant dialectics, that the ministerial measure lacked in itself the essence of finality. It was a compromise containing a concession of principle. Its success depended upon its being accepted as a final settlement by the Irish people, and their leaders took care that its benefits should be accepted, not as a final nor even a temporary settlement, but as an earnest of the transformation of the whole social fabric. The Liberal leaders would not and dared not kill the fomenters of revolution, with whom they were at one in their condemnation of the land laws. They raised a cry of treason when the land agitators—more in obedience to wishes of the Irish citizens of the United States, who paid by their contributions the whole expenses of the agitation, than from the immediate urgency and timeliness of the question—put forth the less momentous demand of separation from the Union; but the claims of Irish self-government have been urged too often to be considered anything worse than tiresome by the British public. The Irish leaders sounded the note of revolution as soon as the land bill was passed, and, pointing to that sweeping measure as a sign of deliverance, urged the Irish peasantry to keep their "grip on the land" and recognize no claims or rights of the landlords in the soil. To defeat and defy the laws of property was declared to be a patriotic virtue. By "passive resistance" of this simple kind the Irish revolution would be finally accomplished, the landlords and the whole "English garrison" chased out of Ireland, and Irish independence, tempered only by the fictitious tie of a crown stripped of its prerogative, would be won after a brief and bloodless struggle. They felt secure of finally winning the sluggish sympathies of the democratic masses of Great Britain, with whom in the last resort rests the arbitrament of political questions. The Government sought to prevent the agitators from spreading discontent and checking the gratitude of the people for the land act by the imperfect device of throwing them all in prison. But they im-

prisoned only friends of the land act; and, in spite of the appeal of the confined Land Leaguers to the tenantry to postpone applications under the act until they were liberated, the latter applied to the land courts by thousands. Nevertheless, the act would not work. The landlords would not accept it. All the resources of legal skill were employed to frustrate its provisions. A large proportion of the decisions were appealed from. The existing law was taken advantage of to oust tenants by wholesale. As evictions multiplied, outrages increased, and, although every district was garrisoned with soldiers, the jails were choked with Land Leaguers, and the organization, which had served as a scape-goat for the troubles in Ireland, was completely stifled, yet the state of Ireland at the close of the year was much worse than at the commencement.

The foreign complications of Great Britain, which usually tend to multiply under Conservative administration, and to vanish when the Liberals come into power, all cleared away during the year. The British troops were withdrawn from Afghanistan as soon as the rule of Abdurrahman was established. In South Africa, the war with the Transvaal Boers was continued, until, after three severe British defeats, the independence of the South African republic, subject to the British regulation of the relations with native tribes and foreign nations, was conceded, an act which, though denounced as cowardly by the opponents of the Government, was accounted wise and magnanimous by the whole world outside of England. In the Greek boundary settlement, Gladstone's Philhellenic sympathies betrayed him into meddling and muddling. He sought to secure for Greece a more favorable adjustment than the Berlin protocol provided for, but the silent workings of the German Chancellor's deep-laid plans, and the voice of the European concert, forced him and the misled Greeks to accept one which was even less favorable. In Egypt, the Government adhered to the line of policy laid down by the Beaconsfield Government, to the extent of continuing the joint control of the finances with France, and, when the arrangement was menaced in the political crisis in Egypt, asserting in diplomatic communications the paramount interests of Great Britain in that country. The French commercial treaty which the Government promised, and which was to be more advantageous to England than the expired treaty of 1860, was not consummated. The French Government were under the influence of a high protectionist faction, who would agree to nothing between the exclusion of British iron and cotton fabrics from France, and the abolition of the English wine and silk duties. Negotiations were broken off and begun again repeatedly, without obtaining any proposals not involving sacrifices either of British commerce or of British revenue.

The balance of parties remained materially

the same as before, though Conservative successes in some of the by-elections indicated an ebb in the popular enthusiasm for the Government. The death of the Earl of Beaconsfield (see DISRAELI, BENJAMIN) bereft the Conservative party of a leader who had not only been the strategic head of the party organization so long, and by so indisputable a title, that no successor was found ready to take the direction, but of the brain which supplied its ideas. It was agreed that the leadership should devolve jointly upon the Marquis of Salisbury, who should succeed Lord Beaconsfield in guiding the Opposition majority in the House of Peers, and upon Sir Stafford Northcote, who should lead the minority in the Commons. The latter, with industry and prudence, acquitted himself fairly well, while Lord Salisbury somewhat lost prestige through the rash impetuosity of his utterances. A want of unity of purpose and of discipline was observable in the Conservative ranks, due not to dissensions among the leaders, but to the loss of their great leader. On moving an address to the crown for the erection of a monument to Lord Beaconsfield, May 9th, as "one who has sustained a great historic part, and done great deeds written on the page of parliamentary and national history," paying a tribute to his persistency of purpose, his power of self-government, his great parliamentary courage, his generous fidelity to his race, and kindness to struggling authors, and expressing the conviction that, in all the judgments delivered by Disraeli upon himself, his late antagonist was never actuated by sentiments of personal antipathy. The Prime Minister kept his parliamentary majority perfectly under control. Besides the defection of some representatives of the Whig aristocracy, such as the Duke of Argyll and the Marquis of Lansdowne, on account of his Irish policy, he lost none of his supporters. The division which was anticipated on account of the supposed radical leanings of the Premier had not occurred. In putting forward men and announcing measures which were formerly considered extreme, he providently took account of the shifting downward of the center of political power. New party lines are likely to be formed when the reforms he proposes in the laws of the transmission of real property are brought forward; but it is likely also that he will have the country with him in an English land reform.

The session of 1881 was a memorable one in the history of the British Parliament. Almost the entire session was consumed in the discussion of a single measure, which was finally passed in a shape wholly inadequate to afford the public relief demanded, although Parliament was called together a month before the usual date, and its sittings were continued long beyond the time of adjournment which usage has fixed. The vicissitudes of the Irish Land Bill revealed the defects of the British Constitution, which has long been held up to the

world as the model system of representation—defects which Lothar Bucher aptly characterized when he deprecated such a system of “government by a club” for Germany. This bill marks also the beginning of an epoch of changes in the political methods and habits of Great Britain consequent upon the extension of the elective franchise. The difficulties of the debate drove the Government to grave and dubious innovations in parliamentary procedure, notably the arbitrary assertion of a power to close discussion. The land act was, in its substance, still more remarkable and significant than the incidents and circumstances attending its passage. The production of the party which has been most closely identified with the doctrine of the absolute inviolability of established laws of contracts and property rights, which has been instrumental in gaining for the principle of the unlimited and inalienable control of the individual over all forms of property, not only universal acceptance in England, but currency all over the world, the land bill is, in its essence, a renunciation of those principles, though avowedly only to meet this single exigency. The measures which were asked for from Parliament, and which were enforced for the repression of the land agitation in Ireland, were a not less strange contradiction of the fundamental doctrines of the Liberal party, which has always maintained, to the fullest extent, the liberty of association and meeting, and the right of free speech. Parliament was opened January 6th.

On the opening day William E. Forster, Secretary of State for Ireland, gave notice of bills for the better protection of life and property, and for restricting the carrying and possession of arms in Ireland; and precedence was asked for these measures over all other business. Parnell and his party denounced in advance the coercive measures, and adopted a method of opposition which, when resorted to by the Home Rule party as a means of compelling the unwilling attention of Parliament to Irish questions, had raised a storm of angry indignation that overwhelmed their cause. The Land Leaguers, pursuing a more specific and radical purpose, employed the tactics of obstruction in a more resolute and thorough-going way. They determined to take advantage of all the ample facilities which the rules of the House afforded to delay and impede the repressive legislation. By interminable speeches the small group of Land League members protracted the debate on the address for two weeks amid deprecations and indignant protests from both sides of the House. On January 24th Secretary Forster moved the consideration of the protection of person and property bill. The dilatory tactics of the Irish party were pursued with redoubled energy. It became apparent that the public business could be kept in check indefinitely by this handful of members, and the introduction of some mode of *clôture*, a most distasteful expedient to Englishmen, be-

gan to be talked of. The first step of progress was the result of a trial of physical endurance. A motion of the Prime Minister's to give the Irish coercion bills precedence over the standing orders was carried, January 26th, after a continuous sitting of twenty-two hours. The tone of the public press, and the feeling out-of-doors, as well as among members of Parliament belonging to both parties, was that the course of the Irish members was a national scandal, degrading the honor of Parliament. Their motive and justification, that they were employing the legal forms of parliamentary procedure to resist the needless suspension of the constitutional liberties of their constituents and countrymen, met with much fainter signs of sympathy, even among the democratic masses to whom they appealed, than the denunciations directed against them for disregarding the time-honored comities of debate.*

The Land League members, supported by the Home Rulers, soon brought the parliamentary situation to a crisis, which was only tided over by an extraordinary infraction of the smooth tenor of legality in English affairs. The sitting which commenced at the usual hour on January 30th was protracted through the night, the whole of the next day, and the following night. After the House had been sitting for the unprecedented space of forty-two hours the Speaker, on resuming the chair on the morning of the 1st of February, forbade further speaking, and put the question. He explained that the House had been kept in session from Monday until Wednesday morning by the tedious discussion of motions for adjournment, and that an inconsiderable minority had resorted to this mode of obstruction to impede a measure recommended in the Queen's speech, and declared urgent by a large majority. “The credit and authority of this House are seriously threatened, and it is necessary they should be vindicated. Under the operation of the accustomed rules and method of procedure, the legislative

* The rules of the British Parliament were adopted by the American Congress at its first organization, and were made the law of the French Chamber of Deputies also, upon its establishment in 1814. But from the beginning they have been modified in the House of Representatives by the important rule of “the previous question.” The further restriction was adopted requiring the concurrence of one fifth of the members present before a vote can be called. In 1794 the rules were amended by forbidding discussion on questions of adjournment. A rule was adopted at a more recent period, limiting to one hour the time allowed for a single speech. In France the majority were empowered to bring a debate to a conclusion by a vote. The Chamber has also a rule requiring that twenty members should unite in demanding a division before a question, except in certain cases, can be put. The British Parliament has always felt a reluctance not only to bind its members by restrictive regulations, but to interfere with the rights of minorities, or with the utmost freedom of debate. The power of a minority to hinder legislation has been on a few occasions taken advantage of, but never, until the Irish members availed themselves of it, in a way to seriously impede parliamentary business, or to try the temper of the public. The most noteworthy instance was the obstruction of the prisons bill, which the rural members disapproved, but would not openly oppose, on account of the relief from taxation it offered their constituencies. In 1848 the question of introducing a check, like the “previous question” of the *clôture*, was seriously under the consideration of the House of Commons.

powers of the House are paralyzed. A new and exceptional course is imperatively demanded, and I am satisfied I shall best carry out the wish of the House if I decline to call upon any more members to speak, and at once proceed to put the question to the House."

The following day Mr. Parnell questioned the Home Secretary, Sir William Harcourt, with respect to the arrest of Michael Davitt, on the ground that his action, as a member of the Land League, was incompatible with a convict's ticket-of-leave. Before he had received what was deemed a satisfactory answer, Mr. Gladstone arose to bring in a resolution giving the Speaker dictatorial powers when urgency was declared. Mr. Dillon (Land Leaguer) interrupted him on a question of privilege, which the Speaker refused to hear. On his persisting in demanding his privilege, he was "named" by the Speaker, and on Gladstone's motion suspended. He refused to withdraw until he was removed by the sergeant-at-arms with a show of force. When the Speaker called upon the Prime Minister to proceed, the latter was again interrupted by Mr. Parnell, who moved that he be no longer heard. Mr. Parnell was named by the Chair, suspended, and removed with a show of force, and after him Mr. Finegan was suspended on the same provocation. Twenty-eight other Irish members, for refusing to vote in these proceedings, were suspended in a body, and excluded by the sergeant-at-arms. These were Messrs. Barry, Biggar, Byrne, Corbett, Daly, Dawson, Gill, E. Gray, Healy, Lalor, Leamy, Leahy, McCarthy, McCoan, Marum, Metge, Nelson, A. O'Connor, T. P. O'Connor, the O'Donohue, the O'Gorman Mahon, O'Sullivan, O'Connor Power, Redmond, Sexton, Smithwick, A. M. Sullivan, and T. D. Sullivan. Five others, Molloy, O'Kelly, O'Donnell, P. Power, and O'Shaughnessy, were afterward suspended separately for not taking part in the divisions, or for moving that the Prime Minister be no longer heard.*

The regulations proposed by the Government, with amendments suggested by Sir Stafford Northcote, the leader of the Opposition in the House, were adopted. They provide that when "the state of public business" is voted "urgent" by a three-fourths majority in a House of 300 members or more, the Speaker shall be endued with dictatorial authority over the proceedings of the House until he declares that the state of affairs is no longer urgent. The Speaker framed a set of rules governing the exercise of this extraordinary power. The principal one was that he should close a debate when obstructive opposition was suspected. Regarding motions of adjournment,

he laid down the rules that no such motion can be entertained during the hour for asking questions and giving notices without a vote of permission; that during debate speeches on motions for adjournment must be confined strictly to the point, and the Speaker may refuse to put such motions, or may put them without discussion, if he deems that they are made for obstructive purposes; that members who have spoken on a motion for adjournment will not be permitted to speak on another during the same debate. The Speaker is empowered to stop a member in the middle of his speech if guilty of "continuous irrelevance or tedious repetition." Motions to go into committee or pass a bill as amended are not debatable. Finally, when a division is demanded, the Speaker may call upon the members challenging it to rise, and, if they do not exceed twenty in number, the vote is not taken.

The Irish members who had been suspended issued, February 4th, a manifesto to the Irish people, urging them to maintain their orderly self-restraint and their unshaken organization, and not to be terrorized by a brief reign of despotism, nor driven from the positions of constitutional action, in spite of acts of the Irish Executive abrogating law, such as the return to penal servitude of a man well known as a counselor of restraint and prudence,* and notwithstanding the fact that the reign of force had been inaugurated against them on the floor of the House of Commons, and the voice of the Irish representation arbitrarily silenced in order that a coercion act for Ireland might be forced through the Legislature.

The protection bill was immediately declared "urgent"; yet, in spite of the new rules, the Irish party contested its passage obstinately and protracted the discussion till the 21st of February, when it was carried by a resort to the rules of urgency and the closure of the debate.

The protection bill provided for the arrest and confinement, within such districts as should be proclaimed under the act, of any persons suspected of high treason, treason-felony, or treasonable practices; and also of any crime punishable by law of the nature of an act of violence or intimidation, or the inciting to such acts, and tending to interfere with or disturb the maintenance of law and order. Persons arrested on such warrants should be detained and treated as persons accused of crime, and not as convicted prisoners. The suspension of the act of *habeas corpus*, and the extension of the powers of the Executive, continue in force until September 30, 1882.

The second of the coercive measures asked

* In the previous session, during a speech by F. H. O'Donnell, the same Speaker being in the chair, Mr. Gladstone moved "that the honorable member be no longer heard." The Speaker, in putting it to vote, remarked that no motion of the kind had been made for two hundred years, adding that it was very doubtful whether such a proceeding as that which prompted it had occurred during that time.

* Davitt. Michael Davitt was born in the county of Mayo in 1846. He lost an arm at the age of ten when working in a Lancashire cotton-factory, his father having left Ireland after being evicted from his farm in 1851. Davitt became a letter-carrier, and in 1863 a traveling salesman. He took part in the Fenian movement, and in 1870 was tried for treason-felony, and sentenced to fifteen years' penal servitude. In 1877 he was released on ticket-of-leave. From that time he devoted himself to organizing the Land League.

for by the Government, the peace preservation act, was brought in on the 2d of March, and passed the Lower House under the urgency rules on the 11th, after stormy debates. It empowered the Lord Lieutenant to prohibit the carrying of arms in any proclaimed district except by persons having special licenses; also to prohibit and regulate the importation and sale of arms in Ireland. Searches for arms could be made between sunrise and sunset under warrants naming the house and suspected person. Summary convictions and imprisonment for not longer than three months were provided for in the act, which was to remain in force five years.

As soon as the coercion acts were disposed of, Parliament turned its attention to some pressing appropriation bills. Mr. Gladstone moved that supply should be declared urgent business. This proposition excited no little surprise. It was warmly resisted by Sir Stafford Northcote, and failed to receive the requisite majority of three to one.

The first supply bill was a measure of financial relief for India. The revelation that the earlier estimates of the Afghan war expenditures were far below the actual cost was an unpleasant surprise to the British tax-payers. The Marquis of Hartington's successive statements were each one larger than the preceding, until the sum grew to £16,000,000, exclusive of the cost of the frontier railways. To relieve the Indian Government of the excessive burden thus imposed, Gladstone proposed to forgive the advance of £2,000,000, voted as a loan by the last Parliament, and to contribute £3,000,000 more in six annual installments. Gladstone's plan was adopted without opposition, and the sum of £500,000, being the first installment, was voted. The Government, in the beginning of the session, had announced their intention of withdrawing the British troops from Afghanistan, as soon as the intestine struggle was ended, and a government capable of ruling the country established. Lord Beaconsfield raised his protest against the abandonment of the conquered territory. When the way was clear, Mr. Stanhope and Lord Lytton brought forward, in Parliament, resolutions censuring the Government for the impending evacuation of Candahar, while at the same time a popular agitation was attempted. The Earl of Lytton's resolution was carried by the strong Conservative majority in the Upper House, but Mr. Stanhope's was rejected by a vote of 336 to 216. On March 22d Mr. Gladstone stated the conditions of peace agreed to with the Transvaal Boers. Supplementary estimates on account of the Transvaal war were agreed to, and other appropriations made.

On the 4th of April the Premier made his financial statement. The principal change announced in taxation for the ensuing year was the reduction of the income-tax to its old rate. To offset the deficit thus created, small additions and readjustments were made in

other taxes. The tax on foreign spirits and rum was adjusted so as to yield an estimated increase, which, with changes in the probate and legacy duties, converted the deficit into an estimated surplus of some £300,000. The income-tax, which was fivepence in the pound, had been increased the year before to sixpence, for the specific object of enabling the Government to carry out its plan of converting the malt-tax into a tax on beer. This reform has not proved an unalloyed benefit to British farmers, since, owing to new methods of brewing, it allows foreign maize and rice to compete with home-grown barley; but this fact was presented in the light of a liberation of trade. An awkward miscalculation had also to be confessed, as the drawbacks paid had amounted to £1,312,000, instead of the estimated £950,000. Referring to what are called the "death duties," he called attention to the various inequalities and needed reforms, such as requiring property in mortmain to contribute to the tax, equalizing the duties on personal property, settled and unsettled, and more nearly equalizing the duties on real-estate inheritances, which vary from one to ten per cent, according to the degree of relationship. The changes in the legacy and probate duties, by which he eked out about £400,000 of estimated revenue, are supposed to be an earnest of more sweeping measures, looking eventually to the abolition of entails, and the subjection of all property held in mortmain to taxation.

With reference to paying off the debt, Mr. Gladstone made an appeal for more vigorous efforts. He presented a statistical comparison, by which he made it appear that the burden was gradually growing more severe. Taking three periods of time, commencing with 1842, he showed that, while from 1842 to 1858 population had increased $\frac{1}{3}$ per cent per annum, the revenue $1\frac{1}{4}$ per cent, and the expenditure $2\frac{1}{2}$ per cent, from 1857 to 1873 the augmentations were 1 per cent, 3 per cent, and $1\frac{1}{2}$ per cent, respectively, and from 1874 to 1877 1 per cent, $1\frac{1}{2}$ per cent, and $3\frac{1}{4}$. But in the last two years, reaching down to March, 1880, while the population had increased by 1 per cent, the revenue had actually gone back $\frac{1}{3}$ per cent, and the expenditure had increased by $2\frac{1}{4}$ per cent. In further illustration of this movement, he mentioned that the penny in the income-tax, which in 1842 produced £772,000, in 1858 £810,000, and in 1878 £1,990,000, in this last year, for the first time in the history of the tax, had actually gone back and stood only at £1,943,000.

The Prime Minister suggested one measure, which was afterward inaugurated, though in advance of the time of action, by an act of Parliament. In 1885 a large amount of short annuities expire. That period has long been wistfully regarded by Chancellors of the Exchequer as one when the duties of the office will be lightened. Mr. Gladstone said that he should consider it an illegitimate use of the lib-

erated funds to apply them to current expenses. He proposed to replace the short annuities by long annuities, terminable in 1906, by which £60,000,000 of the principal of the public debt could be cleared off. During 1880-'81 a total reduction of debt, amounting to about £7,000,000, had been effected. This, the eleventh budget brought in by Gladstone, he declared would probably be his last.

At the time of the introduction of the Irish Land Act, the Duke of Argyll resigned his position in the Cabinet as Lord Privy Seal, on account of provisions in the bill which, he considered, put the ownership of Irish property in commission and abeyance. He was succeeded by Lord Carlingford.

The Irish Land Bill was introduced April 7th. Mr. Gladstone, in explaining the ministerial measure, denied that it was the iniquity of the Irish land laws which rendered it necessary, stating that these differed only from the English laws in being more favorable to the tenant. Neither did he believe that the conduct of the main body of Irish landlords called for legislative interference; most of them abstain from exacting all that they can under the law. The land hunger, or land scarcity, in Ireland, aggravated by recent bad seasons, and the harsh conduct of a limited number of landlords in demanding unjust rents and enforcing them by cruel evictions, were stated to be the grounds for legislation. The land act of 1870 had proved defective, but it had re-established tenant-rights, of the same nature as those which prevailed before the establishment of the present land system, and which are cherished in the traditions of the Irish people. The principle of tenant-right, however much denounced as joint proprietorship, is recognized in the laws of Great Britain and of the other countries of Europe. The fact that improvements are generally made by tenants in Ireland, and not by landlords as elsewhere, rendered it necessary, in the interests of justice, that these rights should be enlarged and protected. The claims of justice could only be satisfied by introducing the three reforms demanded in the popular agitation—fair rent, fixity of tenure, and free sale. Free sale, or the right of the tenant to assign his interest in the land, although the one of the three innovations which is the most completely in accord with modern notions of property, has been more objected to than the others. This right is the more valuable to the tenant, not only by reason of the general land-hunger, but owing to the demand for holdings, springing from motives of fancy or sentiment, as by emigrants returning from America. A land court was considered indispensable for the adjustment of the respective equities of landlords and tenants. Of the seven majority and minority reports of the Bessborough and Richmond Commissions, one appointed by the late and one by the present Government, to investigate the Irish land question, all but one agree in recommending the

establishment of such a court. The bill provides for the creation of a court which is to take cognizance of rent, of tenure, and of assignment. It is an optional court, to which all tenants throughout Ireland have access, but not the landlords. The latter are not given direct access to the court, on the ground that they could force tenants into litigation, and by the possession of this power could extort special agreements as to rent. The great diversity of conditions under which land is leased in Ireland rendered it, in Gladstone's opinion, undesirable, as well as difficult, to introduce uniform regulations governing all yearly tenancies, or to establish a compulsory court to review the relations of landlord and tenant when not invoked. There is no agricultural country in the world the face of which is so seamed with variety as Ireland. You have to begin with all the usual varieties, and then you have many varieties which are exclusively Irish. You have the grazing and the village farm, the large holding and the small, the large proprietors and the small, the landlord absent and the landlord resident; you have the improvements made sometimes by the tenant and sometimes by the landlord, for there are in Ireland, what in Ireland are called in the strictest sense, improving landlords; you have the leaseholds, the annual tenancies, the care-takers of land, lands in conacre and lands in rundale; you have the lands over-rented through the operation of the great land hunger; you have the lands under-rented through the traditions of many estates, and in certain cases through the desire, and perhaps with the express purpose, of excluding tenant-right and assignment; you have the old-fashioned Irish landlord and the new-fashioned Irish landlord, and though the old-fashioned Irish landlord was not an impeachable being, yet many of his sins toward his tenant were sins of omission rather than of commission, and in some respects he would bear a not unfavorable comparison with the new-fashioned landlord. "You have land under middle-men, and you have land without middle-men; you have leases in perpetuity, and, above all, the prevalence of local customs, which have taken deep root in the country, and which, in my opinion, we should incur a very heavy responsibility by gratuitously endeavoring to wipe away from the face of the land. All these are strong reasons for making it optional to the tenant to consider whether he shall go into court or whether he shall not."

The Land Commission created by the act is empowered, when called upon by a tenant, to determine a fair rent for the holding. The judicial rent thus established can not be raised within the statutory term of fifteen years, nor can the tenant be evicted except for non-payment of rent, or for waste, subletting his farm, or other breaches of the statutory conditions. The tenant may at his option apply to the county court judge to fix a fair rent, or it may be settled by agreement with the landlord, or by arbitration; and, when it is fixed by either of these methods or by decree of the Land Court, he obtains the statutory term

of fifteen years, during which he is safe from disturbance or from an increase of rent. At the end of fifteen years he may apply to have a judicial rent fixed for another statutory term. The annual tenant is thus placed in the position of a leasehold tenant for fifteen years, with the privilege of perpetual renewal. The tenant may sell his tenancy to a single person at the best price he can get; but the right of pre-emption, or privilege of buying the tenant-right at the same price, is reserved to the landlord. Every tenant from year to year, when the landlord demands an increase of rent, acquires the statutory term if he agrees to the increase; or he may apply to the Civil Bill Court or the Land Commission to have a fair rent fixed; or he may sell his interest in his holding, or, if compelled to quit, he is entitled to compensation for disturbance, which is more liberal than under the provisions of the act of 1870. If any tenant considers his rent too high, or if the landlord considers it too low, the tenant alone or the tenant and landlord together may make application to have a judicial rent allotted, or the landlord, after failing to come to an agreement with the tenant, may apply to the court to have the fair rent determined. The clause allowing the landlord access to the court was tacked on in the Lords, and the acceptance of the amendment by Gladstone completely alienated the Irish party. The court may compel the tenant to sell his holding to the landlord, receiving full compensation as agreed upon or fixed by the court, in case the ground is required for the good of the estate or for buildings, laborers' cottages, places of worship, schools, dispensaries, or clergymen's or schoolmasters' residences.

A tenant holding under the Ulster custom may waive the custom and take the benefit of the act as ordinary present tenant, or, if he elects to remain under the custom, he is entitled to compensation for disturbance, to the right to sell, and to the statutory term when he accepts an augmentation of rent.

The statutory conditions under which the tenant can hold his farm without disturbance are—1. That he pays his rent. 2. That he does not commit persistent waste. 3. That he does not erect buildings or subdivide or sublet the holding without consent of the landlord, grass-land and manured conacre being exempted from the restriction. 4. That he commits no act to involve his tenant-right in bankruptcy proceedings. 5. That the landlord may enter for mining, quarrying, timber-cutting, or sporting purposes. 6. That he does not open a public-house without the landlord's consent. After the service of an execution for non-payment of rent the tenant has the usual six months for redemption. After the service of notice to quit for violation of the other conditions, the court has power to stop the proceedings, allowing the landlord damages for any injury suffered. The tenant may bring proceedings under the land act in either the Civil Bill Court or the Court of the Land Commission, but if summoned before the former court by the landlord he may remove the case to the Land Commission.

Leaseholders for terms expiring within sixty years will enjoy the benefits of the act as present tenants on the expiration of their leases. Tenants who have entered into leases since 1870 may have the conditions of the leases reviewed by the court, which is empowered to cancel them if they contain unreasonable or unfair provisions and were accepted by the tenants under fear of eviction or through undue influence. No tenant of a holding of less than £30 annual value can contract himself out of the benefits of the act. Landlord and tenant may agree to a lease for any term over thirty-one years, the conditions to be approved by the court if for a term less than sixty years. They may also agree to a perpetual lease either at a fixed rent or one subject to revision every fifteen years, the lease to be approved by the court in case the landlord is a tenant for life or a limited owner.

Provision is made in the act for advances to tenants of holdings of less than £30 value in arrears at the time of its passage. If they settle for one year's rent, the

Land Commissioners will advance one half the previous arrears, not to exceed one year's rent, and the remaining debt is canceled. Tenants against whom decrees of ejectment have been taken out are entitled to the same benefits. All such tenants may sell their interests. Proceedings for ejectment may be stayed by decree of the court, in order to have a fair rent fixed.

The act contains special provisions for the benefit of laborers. The court may sanction the resumption by the landlord of part of the holding for the benefit of laborers in respect of cottages, gardens, or allotments, on such conditions and terms as it may think right, including full compensation to the tenant. A tenant may, after notice to the landlord, let any portion of his land, not exceeding half an acre for each laborer, and not exceeding one letting for every twenty-one acres of the tenant's holding, subject to selection and arrangement as to rent by the court, with or without dwellings, to laborers employed on the holding. In fixing the judicial rent, the court may require cottages to be built and allotments made for laborers, and determine the rents to be paid by them. Tenants are entitled to apply for an advance of money for the purpose of building dwellings for laborers, under the landed property improvement act.

Liberal provisions are made for advances from the public funds to encourage the formation of a peasant proprietary. The commissioners after settling on a price to be paid for a holding by a tenant may advance three fourths of the purchase-money, and, if the landlord agrees, may leave the other fourth as a lien upon the property. If a sufficient number of tenants on an estate are able and willing to purchase their holdings, the commissioners may buy the estate and sell the holdings to the tenants, and may advance three fourths of the price. All advances must be repaid in annual installments within thirty-five years, and bear 5 per cent interest; if the tenant pays the debt off sooner, he obtains more favorable terms. A peasant proprietor who is in debt for advances must not divide or sublet his holding without leave, but may sell. The commission may have it sold if the purchaser become bankrupt, or if on his death it is to be subdivided by the operation of the laws of inheritance. The commissioners are also empowered to advance money to assist emigration, especially of families from the more thickly populated districts, making provision for their transport and reception at their destination.

When Parliament reassembled, April 25th, the Conservatives commenced their assaults upon the Government measure with a series of troublesome questions by Mr. Gibson on the fixing of a fair rent and other provisions of the bill, and the debate soon took an acrimonious tone. The substitute measure of Lord John Manners, providing for the liberal expenditure of public money in fostering Irish industries, was at first proposed by the Tories as an alternative policy, but it was withdrawn and they were left only with Lord Elcho's protesting amendment, which condemned the bill as "economically unsound, unjust, and impolitic." This was rejected by a majority of just two to one. The moderate and some of the extreme Home Rulers, as well as most of the Ulster Conservatives, allied themselves to the Ministerialists in support of the measure. Mr. Parnell denounced it as a "miserable dole," and, with a portion of his party, refused to vote for the second reading. When the bill was discussed in committee, the Conservative resistance to the general policy was recommenced, but was soon abandoned by direction of Sir Stafford North-

cote. Still the contest was keenly carried on upon the details, and on some motions the ministerial majority was considerably decreased by the defection of the Whigs. Mr. Heneage's amendment exempting "English-managed" estates, that is, those which are maintained and improved by the landlords, from the free-sale clause, was defeated with a majority of 25, only by the accession of the whole Home Rule vote. Gladstone avoided a contest of doubtful issue on the fair-rent clause by striking out the prescriptions regarding the tenant's interest, and leaving it to the discretion of the court. Similar discretion had already been allowed with regard to "reasonable objections" a landlord might have to the purchaser of a tenant-right. When the fair-rent clause was reached, the Government inserted, at the suggestion of Charles Russel, the mover of the last-mentioned alteration, the instruction that the court should "have regard to the landlord's and tenant's interests respectively," an addition which was objected to by the Conservatives, but declared by Mr. Gladstone to have but slight practical effect. The provision for canceling leases made since 1870 under undue pressure was added in committee. The bill was discussed in committee from May 26th to July 22d. On June 28th Gladstone obtained a vote giving it precedence, but, knowing that the Conservatives would not agree to it, did not venture to ask for a declaration of urgency. The emigration clause was bitterly resisted by the Irish party, who resorted to obstructive tactics, but desisted when the Government prepared for all-night sittings. The sum set aside for this purpose was, however, limited to £200,000 in deference to their wishes. When the composition of the Land Commission was made known (Sergeant O'Hagan, Judicial Commissioner, with the grade of a judge, with Mr. Litton, former member of Parliament, and Mr. Vernon, a practical manager of land, as his colleagues), the Conservatives objected to the nominations on account of their well-known views on tenant-rights, while the Land League denounced them in unsparing terms. Sir Walter Barttelot's proposal that the commission should purchase estates affected by the statutory conditions, at the demand of the owners, was rejected by a majority of 63. Lord Edmund Fitzmaurice proposed the limitation of the fair-rent clause to holdings valued at less than £100, which was defeated by 36 majority. At the very close of the discussion of the amendments, July 28th, the Government accepted a suggestion of Mr. Parnell that the power of selling a tenant's interest shall be suspended until any application he may make to have a judicial rent fixed is determined. The Conservatives resolved not to oppose the third reading on the 29th; but Lord Randolph Churchill was not amenable to discipline and provoked a debate, in which Mr. Gibson for the Tories delivered a final protest against the principles of the measure, and Mr. Healy for

the Irish party declared that its real authors were languishing in jail. It was carried by a vote of 220 to 14, only a few extreme Conservatives voting.

The attitude which Lord Salisbury and the Conservative majority in the House of Lords would take in respect to the land bill was a subject of anxious doubt. Great relief was felt when the Marquis of Salisbury announced that, although he condemned the bill in its principles and in its details, it was expedient, in view of the state of affairs brought about in Ireland by the promise of this measure, to accept its main provisions, throwing the responsibility for it upon the Government, reserving only the right to remedy the most glaringly unjust and unnecessary of its consequences. The Duke of Argyll carried an amendment excepting "English-managed" holdings, which was the principal alteration made in the Upper House accepted by the Commons, the condition being added that improvements should be not only made but maintained by the landlord. The other amendments, one giving the landlord equal access to the court, and others of minor importance, were thrown out. When the bill was returned to the Lords, Salisbury declared that the Government would have to appeal to the country to decide between them and the constitutional majority of the peers. The country was thrown into a fever of excitement by this announcement. The recurrent threat of the abolition of the House of Peers if they oppose the people's will was murmured ominously. The House of Commons took up the Lords' revised amendments August 15th. The Prime Minister excited the wrath and scorn of the Irish party and of many English Radicals by announcing that the amendments would be considered on their merits, and every effort made to compromise the dispute. Several important points were conceded. Among these were the right of the landlord to get a fair rent fixed by the court, if the tenant fails to agree, without raising the rent at his own peril; the understanding that large payments for tenant-right are not to justify the reduction of rent; and the abandonment of Mr. Parnell's "suspension of proceedings" clause. With the bill as thus amended Lord Salisbury advised the House of Lords to agree, and in this form the land law (Ireland) act became a law.

Parliament was prorogued on August 27th.

The ease of Charles Bradlaugh, member-elect for Northampton, furnished another unpleasant proof of defective working of Parliament and incompatibility between its arrangements and the requirements of the new British electorate. Mr. Bradlaugh was pledged to test the right of non-believers to sit in the House of Commons. He first insisted on his right to make an affirmation, as Jews, Quakers, etc., are allowed to do by statute. On the House's declining to receive his affirmation, he declared his willingness to take the formal oath. The question of his right to do so was referred to a

committee, which advised that he should be permitted to affirm with a view of having his legal rights determined. A resolution to that effect was passed, July 2, 1880. He accordingly sat and voted in the House of Commons pending the judicial decision, which was rendered in the case by Justice Mathews, March 18th. Bradlaugh argued the statutes relating to atheists, agnostics, etc., of persons who are permitted to affirm in judicial examinations, because an oath would have no binding effect on their conscience. He claimed that these enactments created a new class of persons, and brought them within the provision of the act allowing Quakers and "any other persons for the time being by law permitted to make a solemn affirmation or declaration, instead of taking an oath," to take their seats in Parliament on making an affirmation. The judge held that the evidence act was not intended to extend to the classes named the right to affirm in Parliament, and at the same time expressed the opinion that the lack of a religious belief entailed under the law no disability to sit in the Legislature. The judges, on appeal, March 31st, confirmed the decision that Bradlaugh was incapacitated for sitting in Parliament, not having taken the statutory oath. The seat was declared vacant, but at the election, April 9th, Mr. Bradlaugh was again returned for Northampton. On April 26th Mr. Bradlaugh presented himself to take the oath, but, before it was administered, Sir Stafford Northcote objected to the "act of profanation," and moved a resolution that, in view of the knowledge possessed by the House of Mr. Bradlaugh's opinions, he be not permitted "to go through the form of repeating the words of the oath." Mr. Bradlaugh delivered an earnest plea at the bar of the House, to the effect that he was under no legal disqualification, declaring that the essential part of the oath was fully binding upon his conscience. The resolution was carried. Mr. Bradlaugh then presented himself again at the table, and refused to withdraw on the order of the Speaker. Appealed to by Northcote, the Prime Minister stated that, having voted with the minority, he would leave the majority to carry out their resolution. On the motion of Sir Stafford Northcote, Mr. Bradlaugh was ordered by the House to withdraw. Conducted to the bar by the sergeant-at-arms, he again returned, and was only kept back by force. The following day he appeared at the table again. Mr. Labouchere asked the Premier to allow him to bring in an oaths bill to meet the case, but the latter objected to delaying the Irish Land Bill. Such a bill was introduced by the Attorney-General, May 3d, but the matter was postponed by desire of the Conservatives. On May 10th Mr. Bradlaugh again presented himself to take the oath, and refused to withdraw, declaring the order illegal; and again Sir Stafford Northcote was obliged to assume the leadership, and moved his expulsion and exclusion until he gave an undertak-

ing not to further disturb the proceedings of the House. On August 30th, the Attorney-General's bill having been withdrawn, Mr. Bradlaugh appeared in the lobby and attempted to penetrate the House, but was denied admission, and finally taken away struggling by the police. Many deputations had presented petitions in favor of his admission that same day, which was previously announced. Bradlaugh was in an almost fainting condition when conducted outside. On a resolution offered by the other member for Northampton, to the effect that the Speaker had exceeded his powers in having Bradlaugh driven out of the lobby, Mr. Bright reminded the majority who refused to open a portal by which the duly elected representative of a great constituency, who had been declared by the court to be not constitutionally disqualified, could enter the House, of the danger of the situation of affairs they had brought about. The crowds who had assembled at the meeting of sympathy the night before, and those which gathered in front of the halls of Parliament that morning, he said, numbered but a few thousands, "but this is exactly one of those things which grow, and the House, if it persists in its present course, will bring us into some most unfortunate and calamitous position." The scrupulosity of Parliament in refusing, against the earnest opposition of the Government, to allow Mr. Bradlaugh to take the oath on account of the expression of his religious opinions, of which it had taken formal cognizance, although professed infidels have not infrequently sat in Parliament in late years, was in great measure due to antipathy toward the man and the class to which he belongs. Charles Bradlaugh is an exceedingly popular leader among the extreme Radicals. The prejudice and exclusive spirit which went so far as to disregard the rights of a constituency on a colorable pretext, because its representative was regarded with aversion as the embodiment of obnoxious opinions, can only have the effect of bringing a larger number of the same class of democratic politicians and tribunes of the working people into Parliament than would otherwise be chosen.

But few and unimportant changes in the Government were made. The secession from the ministry of the Duke of Argyll left the Privy Seal vacant, which was given to Lord Carlingford. The governorship of Madras was made vacant by the death of Mr. Adam, and was conferred on M. E. Grant Duff, Under-Secretary of State for India in Mr. Gladstone's former administration, and well known as a Liberal member of Parliament, and for his discourses to his electors on foreign events and politics. After the conclusion of the Boer convention, L. H. Courtney, known as an advanced Liberal, was appointed Under-Secretary for the Colonies, Lord Rosebery becoming Under-Secretary for the Home Department, with special charge of Scotch affairs in the House of Lords.

The arraignment and trial of the leading

members of the Land League, before the Court of Queen's Bench at Dublin, marked a complete change of policy on the part of the Government with regard to the Irish agitation. Before the coming together of Parliament in January, the Government had not shown a disposition to adopt extraordinary or repressive measures. Parliament had not been convened to continue or replace the peace preservation act of the preceding Government; but assurances were given that the existing laws would be sufficient to secure order. The indictment of Parnell and other prominent members of the League on the charge of conspiracy, brought with the purpose of obtaining a verdict declaring the Land League to be an illegal body, and the agitators, through their public speeches, to be criminally implicated in the homicides and other agrarian outrages, was the first indication that the Government desired or deemed it within the limits of the constitutional prerogative to suppress the political agitation which they had countenanced until then.

The conspiracy trial ended on January 24th in the disagreement of the jury, and the discharge of the fourteen traversers. Justice Fitzgerald, in summarizing the counts, reduced the charges to five:

1. That the defendants combined to incite tenants not to pay rents, or not to pay more than Griffith's valuation;
2. To incite tenants dispossessed for non-payment of rent to re-enter their holdings;
3. To prevent persons taking or keeping farms from which tenants had been evicted for non-payment of rent;
4. To prevent persons buying goods taken in execution for rent;
5. To excite the people to "Boycott" those who paid rents or took evicted farms.

He charged that, if the Land League pursued among its objects incitement to "Boycotting," or to a combination to pay no rent, or deliberately exerted an influence to prevent the Queen's writs from being served, it was an illegal assembly, and all its members were guilty of conspiracy. All but two of the jurors, it transpired, were for the conviction of the accused. The release of the prisoners was celebrated by demonstrations of popular rejoicing.

The favor of the Roman Catholic clergy and the encouragement and assistance of the Irish-Americans were two large and indispensable elements in the success of the Land League. The parochial clergy naturally sided very generally and earnestly with the tenantry. The general weight of the Church's influence was favorable to the agitation until the enactment of the land law and the extreme attitude taken by the League later. After that, those priests who engaged in the movement came in conflict with the conservative tendencies of the Church. Archbishop McCabe, of Dublin, opposed the League openly and bitterly from the beginning, but his influence was far outweighed by that of another high prelate, Archbishop Croke, of Cashel, whose outspoken and eloquent advocacy gave the movement a mighty impetus in the stages which preceded the passage of the

land act. The subject of the establishment of the Ladies' Land League brought these dignitaries into open controversy in March.

The Government promised that the protection act would not be employed to repress agitation, but was aimed at the "village tyrants," the instigators of such crimes as the maiming of cattle, burning hay-stacks, dragging men from bed at night, and threatening them with fearful penalties if they pay rent, etc. But, in asking leave to bring in the bill, Mr. Foster charged the Land League with being an unlawful organization, which instituted tribunals that usurped jurisdiction in the Queen's dominions, and sought to replace the law of the land with what Mr. Parnell called an "unwritten law." His characterization of the men against whom the act was alleged to be directed, the plotters of outrages, as "contemptible, dissolute ruffians and blackguards," was remembered when the leaders of the land movement were afterward incarcerated under the act. He claimed to be in the possession of evidence of a dangerous Fenian conspiracy, on which ground treasonable offenses were included in the act. Immediately after the act received the royal assent, March 2d, the counties of Clare, Galway, Kerry, Leitrim, Limerick, Mayo, Roscommon, Sligo, and several baronies in the county of Cork, were proclaimed, and many persons were arrested, among them Michael P. Boyton, a native American, whose friends besought the interposition of the United States Government. On May 1st Dublin was proclaimed. On May 2d John Dillon, member of Parliament, who had made vehement appeals to the peasantry to preserve the League organization and resist rack-renting, was lodged in Kilmainham Jail, Dublin. He was on his way to Parliament when arrested within a proscribed district. In August he was released on account of impaired health. The arrest of Father Sheehy, a Catholic priest, caused an intense excitement.

As soon as the land bill was disposed of, Mr. Parnell moved in the House of Commons, August 17th, a vote of censure on the Government for the administration of the coercion acts, to the effect that it had not been in accordance with the pledges and declarations given by the ministers when the assent of the House to the suspension of the Constitution in Ireland was being obtained. Of the 192 "suspects" in prison, only fourteen were returned as arrested for sending threatening letters, four or five for arson, and eight for maiming cattle. Most of the prisoners, he declared, were substantial tenant-farmers, shop-keepers, poor-law guardians, and other respectable classes of people. The Solicitor-General for Ireland gave the returns a different interpretation.

Mr. Gladstone replied that, before the Government resorted to exceptional legislation, they had applied to the ordinary tribunals, and had failed to obtain the verdicts they thought necessary for the public peace. He declared

that it was not by defiant speeches, not by appealing to a country across the Atlantic as the true country of Irishmen, not by talking of Englishmen and Scotchmen as foreigners, that the Government would be induced to accelerate by one day the opening of the prison-doors.

Before the enactment of the land bill the Irish leaders, in order to secure the passage of the ministerial measure, which differed only in degree from those plans submitted by them which Mr. Gladstone expressed himself "unable to distinguish from schemes of public plunder," had kept the revolutionary movement under a curb, and were circumspect in their own utterances. But any hopes entertained in England that they would accept the large concessions of the land bill as a settlement of the land question, or even a temporary compromise, were soon dissipated. The Land League agitators placed themselves on the extreme revolutionary ground, and proceeded to employ the concessions obtained as an argument for the justice and strength of the Irish revolutionary movement. They now openly espoused the national cause, and declared that the land question which they had raised involved nothing less than a social revolution, and the complete transfer of the property and political power of the country.

A national convention of the Land League was held in Dublin in September. In the resolutions adopted, "the detestable system of alien rule" was declared to be the root of Ireland's ills, and the "right of national self-government" was claimed as the only remedy. The release of the "suspects," without condition and without delay, was demanded, without which the Irish people would never believe that the land act was intended to effect any improvement in their condition. "No settlement of the land question can be satisfactory," they boldly proclaimed, "which does not abolish landlordism, root and branch, and make the tiller also the owner of the soil."

The League announced its intention to maintain the same solid combination against landlordism which had worked such magnificent results in the past two years, and to maintain an expectant attitude with regard to the land act, while actively aiding in developing any good it might contain by taking test cases from estates in different parts of Ireland, and contesting them out of the funds of the League. The resolutions warned tenants from entering into leases pending the decision of the test cases. The farmers of Ireland were called upon to prove their sympathy with the laborers by building them dwellings, and allotting them garden-plots under the act. The Irish members of Parliament were instructed to press for provisions in the promised county government bill, giving power to the county boards to acquire land by compulsory purchase for the benefit of laborers. The members of the League were requested to use articles of Irish manufacture, and the League promised

to start industrial and labor departments for the encouragement of native industries. Until the effects of the act should be tested in the typical cases to be brought before the court under the auspices of the Land League, the tenants were advised not to avail themselves of any of the provisions of the act, except the clause relating to borrowing money for the construction of laborers' dwellings. The Roman Catholic bishops, about this same time, advised their flocks to accept the advantages of the land act, and show gratitude for this "installment of justice." When they were convinced that the Land League would be likely to modify and control the working of the land law, the Government did not hesitate as to its course. Though Mr. Bright had declared, when the Conservatives were calling for the suppression of violence in Ireland a year before, that "force is no remedy," the Liberals had drifted so far from their old moorings as to deem it a remedy for unwelcome and inconvenient political agitation. "The resources of civilization are not yet exhausted," Mr. Gladstone said, threateningly, in a speech at Leeds, October 7th.

The following week Mr. Parnell was arrested, on the ground that he incited tenants to refrain from paying rent and from applying to the Land Court.

The Leeds speech of Gladstone was an attack upon Parnell, and contained an allusion to Dillon, speaking of him in the highest terms, and crediting him with having abandoned the League. Parnell took up the challenge, and delivered at Wexford a speech filled with scathing invective against the Prime Minister. Dillon came out of his retirement to contemptuously repudiate Mr. Gladstone's praises. At a Cabinet council, held a day or two afterward, the suppression of the Land League was determined upon. Parnell was arrested on the 13th of October. The same evening a meeting of the Land League was hastily called together in Dublin, and Dillon was intrusted with the command of the organization. The following day Mr. Sexton, member of Parliament, and one of the ablest leaders of the Leaguers, was arrested, and likewise the assistant secretary of the Land League, Mr. Quinn. The same afternoon John Dillon was rearrested. Proclamations forbidding various League meetings, advertised in different towns, were issued by the Executive. William O'Brien, editor of the organ of the Land League, "United Ireland," and O'Kelly, member of Parliament, were also taken into custody that day. A. O'Connor assumed the control of the League, issuing his directions from Holyhead. Large numbers of troops were sent over to Ireland. Serious disturbances broke out at various points, but no insurrection occurred. There were riotous scenes in the streets of Dublin.

On the 18th was published a manifesto, signed by the imprisoned officers of the League—Charles Stewart Parnell, Andrew Kettle,

Michael Davitt, Thomas Brennan, John Dillon, and Thomas Sexton; and by Patrick Egan, the treasurer, who had escaped to Paris. This document declared that the Government had forced a crisis while the land act was yet untested, in order to strike down the "only power which might extort any solid benefits for the tenant-farmers of Ireland from that act." It stated that the League was preparing to test the land act, and also taking measures to secure, in the event of the land act proving to be "a mere paltry mitigation of the horrors of landlordism, in order to fasten it the more securely upon the necks of the people," that the tenant-farmers should be able to fall back upon the "magnificent organization which was crushing landlordism out of existence." The manifesto goes on as follows:

One constitutional weapon now remains in the hands of the Irish National Land League. It is the strongest, the swiftest, the most irresistible of all. We hesitated to advise our fellow-countrymen to employ it, until the savage lawlessness of the English Government provoked a crisis in which we must consent to see the Irish tenant-farmers deprived of their organization and laid once more prostrate at the feet of the landlords, and every murmur of Irish opinion suppressed with an armed hand, or appeal to our countrymen to at once resort to the only means now left in our power of bringing this false and brutal Government to its senses. Fellow-countrymen, the hour to try your souls and to redeem your pledges has arrived. The Executive of the Irish National Land League, forced to abandon the policy of testing the land act, feels bound to advise the tenant-farmers of Ireland from this time forth to pay no rents under any circumstances to their landlords, until the Government relinquishes the existing system of terrorism and restores the constitutional rights of the people. Do not be daunted by the removal of your leaders. Your fathers abolished tithes by the same methods without any leaders at all, and with scarcely a shadow of the magnificent organization that covers every portion of Ireland to-day. Do not let yourselves be intimidated by threats of military violence. It is as lawful to refuse to pay rents as it is to receive them. Against the passive resistance of an entire population military power has no weapons. Do not be wheedled into compromise of any sort by the dread of eviction. If you only act together in the spirit to which, within the last two years, you have countless times pledged your vows, they can no more evict a whole nation than they can imprison them. The funds of the National Land League will be poured out unstintedly for the support of all who may endure eviction in the course of the struggle. Our exiled brothers in America may be relied upon to contribute, if necessary, as many millions of money as they have contributed thousands to starve out landlordism, and bring English tyranny to its knees. You have only to show that you are not unworthy of the boundless sacrifices in your cause. No power on earth except faint-heartedness on your own part can defeat you. Landlordism is already staggering under the blows which you have dealt it amid the applause of the world. One more crowning struggle for your land, your homes, your lives—a struggle in which you have all the memories of your race, all the hopes of your children, all the sacrifices of your imprisoned brothers, all your cravings for rent-enfranchised land, for happy homes, and national freedom to inspire you—one more heroic effort to destroy landlordism at the very source and fount of its existence, and the system which was and is the curse of your race and of your existence will have disappeared for ever. The world is watching to see whether all your splendid hopes and noble cour-

age will crumble away at the first threat of a cowardly tyranny. You have to choose between throwing yourselves upon the mercy of England and taking your stand by the organization which has once before proved too strong for English despotism. You have to choose between all-powerful unity and impotent disorganization—between the land for the landlords and the land for the people. We can not doubt your choice. Every tenant-farmer in Ireland is the standard-bearer of the flag unfurled at Irishtown, and can bear it to a glorious victory. Stand together in the face of the brutal and cowardly enemies of your race. Pay no rents under any pretext. Stand passively, firmly, fearlessly by while the armies of England may be engaged in their hopeless struggle against a spirit which their weapons can not touch. Act for yourselves, if you are deprived of the counsels of those who have shown you how to act. No power of legalized violence can extort one penny from your purses against your will. If you are evicted you should not suffer. The landlord who evicts will be a ruined pauper, and the Government which supports him with its bayonets will learn in a single winter how powerless its armed force is against the will of a united, determined, and self-reliant nation.

A counter-proclamation was issued by the Irish Executive, denouncing the League as an unlawful assembly and criminal association, and giving the assurance that all the powers and resources of the Government would be employed "to protect the Queen's subjects in Ireland in the free exercise of their lawful rights and the peaceful pursuit of their lawful callings and occupations, to enforce the fulfillment of all lawful obligations, and to save the process of the law and the execution of the Queen's writs from hindrance or obstruction."

The offices of the Land League were taken possession of and closed by the Government on October 21st. The Ladies' Land League, under the presidency of Miss Anna Parnell, issued an address calling upon the people to remain faithful to the League, declaring that once more "an alien Government, in the hope of stifling the unconquerable resolve of the Irish race to maintain a place on the soil allotted to it by Providence, is prepared to confiscate the liberties of an entire nation." They appealed for aid for the prisoners, expressing the resolution to do their part in the great struggle "of which the issue will be the regeneration of Ireland." A resolution was offered, at a meeting of the Corporation of Dublin, to confer the freedom of the city on Parnell and Dillon, as an expression of indignation at the course of the Government, and it was only lost by the casting vote of the mayor. The "No rent" proclamation elicited a letter from Archbishop Croke, in which he advised the people not to reject the benefits of the land act at the command of their rash leaders; he subsequently recommended them to tender what they considered a fair rent, and throw the responsibility on the landlords of refusing this. The prisoners, after a few days, declined to receive longer the fare provided by the efforts of the ladies, declaring that they would be content with ordinary prison rations. In December prominent members of the interdicted League, who were still

at large, started a Prisoners' Aid Society for the purpose of alleviating the hardships of the "suspects" in Kilmainham jail, which were alleged to be severe, and that of keeping alive the interest of the people in the silenced organization.

Payments of rent were to a great extent, but by no means universally, withheld. The landlords, partly owing to this, partly to their pecuniary embarrassments, and partly to a desire to drive away their present tenants by every means, and escape, if possible, the claims which the Land Commissioners were enforcing, obtained executions from the ordinary courts by hundreds. An organization of landlords to protect their interests was started about January, under the name of the "Property Defense Association." The object was to meet the strike against rent at every point—by sending agents to attend sheriffs' sales and provide bailiffs to serve writs and carry out executions where ordinary bailiffs could not be found to do so; to provide laborers where an employer has been deserted by his help; and to find markets for his produce when the markets of the neighborhood have been closed against him. Property defense societies were now formed in every county, for the purpose of defeating, by an organized effort, the effects of the land act. Appeals were taken from all the decisions, and every form of legal delay and obstruction which was known to lawyers was interposed. Meanwhile the customary proceedings by judgment and ejectment were unsparingly resorted to. The Court of Common Pleas ruled that the existing law remained in full force, and that no stay of proceedings could be granted in actions for rent in order to allow the debtor to have his rights established in the Land Court first.

In spite of the "No rent" manifesto of the Parnellites, the applications to the Land Court came in such numbers that the commission and sub-commissions would be kept busy for several years in disposing of all the cases entered on the docket. The number of sub-commissions was increased in consequence. The first decisions of the commissioners and the construction put upon the land act created much dissatisfaction among the proprietors. A very large proportion of the decisions of the sub-commissions to the land commissioners, and appeals from the latter on points of law, were taken to the High Court of Appeals. A dictum of sub-Commissioner Baldwin, to which the landlords took great exception, was as follows:

In determining the rent we have not set up any standard of what the farming ought to be. We have taken the estate, tenants, and all as we found them. We have carefully considered the capabilities of the land in the hands of the present tenants. To others the land may be more valuable if those tenants were removed. With any speculation as to that point we have nothing to do.

The extreme uneasiness among the landlords, caused by the first decisions, abated when the number of decisions multiplied. The reduc-

tions were nevertheless so great that many landlords proposed abatements of rent amounting to from 15 to 25 per cent, but the tenants preferred to apply to the courts to fix a judicial rent.

The Land Commission and the sub-commissions proceeded industriously to work on the mass of business laid before them, but very little headway was gained. The expectation that test cases would be brought in and voluntary settlements made in conformity with the points settled in these was entirely disappointed. Reductions in rent were generally made by the commissioners—commonly about 25 or 30 per cent. Before November some 70,000 cases were entered for trial. Of the decisions rendered fully 60 per cent were appealed against.

The man-of-war *Doterel* was blown up in Magellan Strait, in May, by a boiler-explosion which fired the powder-magazine, and nearly all hands were lost. It was supposed by many, until an investigation showed the contrary, that it was the work of Irish incendiaries, and the rumor was strengthened by dark hints thrown out by a violent Fenian journal published in America.

Several crimes committed in different parts of England gave rise to the belief that a widely ramified conspiracy of Fenians, with its headquarters in New York, had been formed to carry on a work of destruction in England. A canister of gunpowder, with a lighted fuse, was found close to the walls of the Mansion House in London, March 16th. A plot was laid to destroy the militia barracks at Chester with explosives, and an explosion occurred in the barracks at Edinburgh. An attempt was made to blow up the police barracks in Liverpool, May 16th, by a piece of piping filled with powder, with a burning fuse attached. On June 10th a tube filled with dynamite was left on the steps of the Liverpool Town Hall. The perpetrators, two Irishmen, were arrested. One was a dock-laborer of Liverpool, and the other a recent arrival from New York. In the state of panic which these last outrages produced, the Land Leaguers were charged with being morally responsible for the crimes, if not accessories, and the press called for a vindictive exercise of military power in Ireland. The discovery of infernal machines on vessels arriving from America created a fresh panic. The Government was secretly informed of such shipments, and, on searching steamers on their arrival at Liverpool, six metallic boxes, containing large charges of explosives and clock-work machinery, were found in a barrel of cement, and four more were found in a second barrel and on another vessel. The Home Secretary, Sir William Harcourt, made, in the House of Commons, the following statement with reference to this and the other affairs above mentioned, connecting them with the Irish Fenian press of America:

Week by week for the last nine months, open

threats and public invitations to general outrage and private assassination have been circulated, and subscriptions for these purposes have been openly collected in the United States and actually expended for these purposes. More than one attempt of the kind has been made in England by miscreants hired and dispatched from America for this purpose, and their work has been publicly claimed by their instigators as a reward of past and a motive for fresh subscriptions.

The Government had already made representations to the Government of the United States regarding the incitements to outrages contained in certain American newspapers. The new doctrines in English law, formulated to suit the case of the "Freiheit," seem to have emboldened the Government to make the novel request that the Government at Washington should stop the utterances of the incendiary sheets, characterized by the Home Secretary as the "assassination press." The invectives and menaces of the "Irish World," the "United Irishman," and the "Sunday Democrat," which alarmed the British Government, were recited and noted with terror throughout England. But the public formed a more sober judgment than the Government displayed concerning the infernal machines. The fact of the detailed information which had been forwarded to the authorities, coupled with the other fact that, although a complete trap was laid for the consignees, no one appeared to claim the goods, led to the conclusion that the infernal machines were dispatched in order to create a sensation, and to either spread terror and dismay in Great Britain or to attract contributions to the "skirmishing fund" in the United States. A man named John Tobin was arrested at Bradford in November and brought to trial for treason-felony, a number of pistols having been found in his possession, and documents showing his connection with a Fenian organization called the Irish Republican Brotherhood.

The area in Great Britain reported under cultivation in 1881 was 32,212,000 acres, an increase of 110,000 acres as compared with 1880; but this increase consists, as for several years back, only in the inclosure of waste land for pasturage. The grain acreage was 8,848,000 acres, showing a decrease of 28,000 acres; the acreage of green crops, 3,510,000 acres, an increase of 34,000 acres; acreage of grass or clover in rotation, 4,342,000 acres, a decrease of 92,000 acres; total area of arable land, 17,568,000 acres, a decrease of 107,000 acres. The area devoted to pasture was 14,643,000 acres, showing an increase of 216,000 acres. The acreage of permanent pasture has increased from 12,435,000 acres in 1871, while that of arable land has fallen away from 18,403,000 acres to the present figures. The area under wheat, 2,806,000 acres, is 103,000 acres less, and that under barley, 2,442,000 acres, 25,000 acres less than in 1880; but the acreage of oats, 2,901,000 acres, has increased 104,000 acres. The number of cattle in Great Britain in 1881 was 5,911,642, against 5,912,046 in

1880; pigs, 2,048,000, against 2,000,000; sheep, 24,581,000, against 26,619,000. The decrease in the number of sheep, amounting to 8 per cent, was due to severe winter and spring weather, causing many deaths everywhere, to a bad lambing season in many districts, and to the disease called liver-rot. The British flocks have decreased 19 per cent since 1874. The stock of horses shows a steady increase.

In Ireland there was an increase of 10,000 acres in the grain acreage, oats showing an increase to about that extent, and wheat increasing and barley decreasing some 6,000 acres. Potatoes show an increase of 34,000 acres; clover and grasses of 89,000 acres; and flax a decrease of 10,000 acres. While the cultivation of crops was extended, the land under permanent pasture diminished in the year 170,000 acres. There was a slight decrease in the number of horses and an increase in cattle. The losses of sheep were in the same proportion as in Great Britain. In the number of pigs the large increase of 289,000 was reported.

The following table affords a survey of the agricultural statistics of the whole United Kingdom for the two years:

ACRES, ETC.	1881.	1880.
Number of acres cultivated.....	47,646,112	47,586,700
“ of acres of corn-crops.....	10,654,697	10,672,086
“ of acres of green crops.....	4,503,211	4,746,293
“ of acres of clover, etc.....	6,384,172	6,389,232
“ of acres of permanent pasture	27,767,767	24,717,092
“ of horses.....	1,923,619	1,929,680
“ of cattle.....	9,905,013	9,871,153
“ of sheep.....	27,896,273	30,239,620
“ of pigs.....	3,149,173	2,863,488

Of the total area of the British Islands, 77,829,000 acres, 61 per cent is cultivated—in Scotland only 25 per cent of the whole area, in England and Ireland 74 per cent. Of the cultivated area 22½ per cent is devoted to grain, 10 per cent to green crops (potatoes, turnips, etc.), 13½ per cent to meadow, 2 per cent to other crops, and 52 per cent to pasturage.

The year 1881 was another calamitous one for British agriculture. The losses of farming capital actually incurred in the series of bad seasons are estimated at £120,000,000, which was fully one third of the aggregate capital of British agriculturists. The severest losses fell in the wheat and sheep raising districts, in the south and east of England and the midland counties. In the wheat districts more than half of the farmers' wealth has disappeared. The crop of 1879 was the worst since the beginning of the century, and only two good crops have occurred in ten years. Owing to enormous imports from the United States, no rise in prices compensated for the deficient product. The general level of prices for agricultural products has not declined, however, notwithstanding the importation of vast supplies from abroad. Comparing the averages of the years 1860-'64 with 1875-'79, the imports of live cattle have increased 90 per cent, while the price has risen 16 per cent;

the imports of sheep have increased 150 per cent, while the price has risen 15 per cent; the imports of fresh meat 220 per cent, with a rise of 13 per cent in price; of butter, 75 per cent, with a rise of 16 per cent; of cheese, 135 per cent, with a rise of 8 per cent. The only variety of animal food which has declined in price is salted provisions, which fell off 7 per cent, while the imports increased 250 per cent. The imports of barley have increased 90 per cent, with a rise of 10 per cent in price; oats, 122 per cent, with a rise in price of 14 per cent; while wheat has fallen 4 per cent in price, with 75 per cent increase in the imports. English wool too has fallen 10 per cent in price, owing to increased importations and a change of fashion. The quantity of potatoes imported has increased 750 per cent, and the price has risen 10 per cent. Wheat and wool seem to be the only leading products which have been depressed in price by foreign competition. Wheat has fallen but 4 per cent, although the imports of 1880 amounted to 3,500,000 tons, or two thirds of the total supply of the population. Barley and oats are grown in perfection in the British Islands; and these cereals have risen considerably in price, and would have risen still more but for the imports of Indian corn, which competes with them as an article of food for men and animals, and serves as a substitute material also in the brewing of beer. The imports of corn have increased 228 per cent, reaching now 2,000,000 tons a year. In the last ten years 828,000 acres of grain-land and 228,000 acres of land devoted to green crops have been withdrawn from tillage and turned into permanent pasture, involving the stoppage of £8,000,000 a year in the annual returns. The pasturage has been increased by more than double this area, or an extent of reclaimed wild land exceeding that taken from the arable acreage; still the live-stock has decreased from the highest point, in 1874, by 346,000 cattle and 6,856,000 sheep, representing a loss of over £18,000,000. The "fluke" disease in sheep and the embarrassments of farmers, obliged to sell a portion of their stock to meet their engagements, owing to the succession of cold and moist seasons, account for this diminution in the census of animals.

The number of criminals received in the prisons in the year ending in July, 1881, was 149,074, against 160,729 in 1880. The average number of inmates in the prisons was 18,027, against 19,835 during the previous year. The total population of the prisons on March 31st was 15,352 males and 3,627 females. Of the males, 32 were under twelve years of age, 338 between twelve and sixteen, 3,181 between sixteen and twenty-one, making 3,551 under twenty-one, while there were 5,854 between twenty-one and thirty. The proportion of criminals between sixteen and thirty was therefore 58·9 per cent, while in the total population of the country the proportion of males between those ages is only 41·4 per cent. The number

of criminals between thirty and forty was about equal to those above forty, and only half as many as those between twenty-one and thirty. The statistics of the graver crimes show a remarkable decrease in recent times. Comparison with the statistics of years previous to 1864 is not possible, as the shortest term of penal servitude was changed by statute in that year from three to five years. Since 1864 the average number of sentences to penal servitude for periods of five years and the number for the year 1880 were as follows: 1865-'69, 2,148; 1870-'74, 1,810; 1875-'79, 1,795; 1880, 1,654. Relatively to the number of the population the diminution since 1865 has been 27 per cent. The commitments for trial averaged 19,453 from 1861 to 1865, 18,900 from 1866 to 1870, 15,174 from 1871 to 1875, and about the same number from 1876 to 1880. Crimes of violence are decreasing, notwithstanding a general impression to the contrary; crimes of shooting and stabbing with intent to maim were 123 in 1880, the average for the preceding five years having been 154. Robbery with violence decreased also; larceny decreased considerably; and assaults with intent to commit bodily harm from the average of 902 to 740. In juvenile crime since the institution of reformatories and industrial schools a remarkable decrease has taken place. The number of juvenile commitments was 14,000 in 1854; in 1879 they had fallen to 6,800, and in 1880 they were only 5,500. There are 64 reformatory schools and 136 industrial schools, besides 11 training-ships and the recently introduced industrial day-schools and truant-schools. The boys who leave the reform-schools are kept track of, and statements of their subsequent career made every three years. A small percentage relapse into criminal practices. Of the total number, 81 per cent were reported as doing well in 1879, and in 1880 92 per cent.

Since the institution of the present public-school system of England, by the act of 1870, the progress of popular education, though slow, has been continuous. The number of schools inspected in 1870 was 8,281; in 1880 they had increased to 17,743; and the accommodation in the schools, which was then not sufficient for 2,000,000 children, has been so enlarged that 4,250,000 can now be instructed. The average attendance increased from 1,152,389 in 1870, to 2,750,916 in 1880, about 150 per cent. The number of scholars registered in 1881 was 3,895,000, an increase in twelve months of 185,000; the average attendance was 2,751,000, an increase of 156,000. The number of children examined was 1,904,000, 81 per cent of those examined in the three rudimentary studies reaching the standard of proficiency. An increasing proportion apply themselves to the special studies in which those are instructed who have acquired the rudimentary branches. In these the Government grant is made dependent on the general

proficiency of the class. They were formerly limited to grammar, geography, history, and needle-work, but now include many other elementary subjects, such as can be taught from graduated text-books. A great improvement in the character of school-books has resulted from the new demand. Over 100,000 scholars went through satisfactory examinations in specific studies, having attained the highest grade in the regular course of elementary instruction; the favorite subjects were English, animal physiology, physical geography, and domestic economy. There were 41,426 certificated teachers, being an increase in a year of over 3,000, and 33,733 pupil-teachers, an increase of 538. The cost of maintenance was £2 1s. 11½d. in the board schools, and £1 14s. 7½d. in the voluntary schools, the Government subsidy being 15s. 7½d. per child in the former, and 15s. 5d. in the latter. The effect of the act of 1870 has been to stimulate the growth of the voluntary schools rather than to replace them with the board schools. The number of voluntary schools increased from 8,281 to 14,181 in ten years, while the national schools numbered in 1880 only 3,433, and had only two pupils to every five in the others. The teachers are recruited mainly from the training colleges, those at Battersea and Oulham being the principal ones. These are so overcrowded, that certificates have been given to pupil-teachers to the number of about 3,000. The average salary has been increased from £95 to £127 for masters, since 1870, and from £57 to £72 for mistresses. The whole cost of the schools in 1880 was £5,017,253, of which £143,000 proceeded from endowments, £731,000 from voluntary subscriptions, £756,000 from rates, £1,431,000 public grants, £1,982,000 school-pence, and £65,000 from other sources.

Important changes have been made in the education code, the most significant of which is one which opens the way for graduates of the universities to become teachers. Mr. Mundella, Vice-President of the Committee of Council, stated, in presenting to Parliament the annual estimates, that the department has had applications, almost by the hundred, from university men who want occupation. The new code proposes to admit as assistant teachers in the schools graduates from any of the universities, and women who have passed certain of the higher examinations held by the universities; and after they have served for one year, if the inspector reports favorably of their skill in teaching, reading, and, in the case of women, in needle-work, to admit them to examination for certificates. The system of inspection has been reorganized, the country being divided into districts, each in charge of a chief inspector, assisted by sub-inspectors taken from the ranks of the assistant inspectors and schoolmasters. The Government grant is made dependent, in the revised code, upon the average attendance, instead of on the proficiency of the classes prepared for the annual inspection

in schools which can show an attendance of 250 pupils. Power is given, moreover, to inspectors to recommend grants for the special merits of the teaching in the separate schools.

From the excise returns it is possible to make a close estimate of the total cost of the beer and spirituous liquors consumed by the British public, and to give the quantities. The change of the malt duty into a tax on beer has resulted in affording more accurate returns of the consumption of beer. Advocates of the suppression of the drinking luxury by law are accustomed to publish statements of the national "drink bill." The following table gives the amount of money expended by the public in intoxicating beverages in the years 1879 and 1880, estimating the average price of beer at 1s. 6d. a gallon, of domestic spirits at 20s. and imported spirits at 24s. a gallon, and of wine at 18s. a gallon:

DRINK.	Gallons.	1880.	1879.
Beer.....	905,088,973	£67,881,673	£73,557,609
British spirits.....	28,457,486	23,457,486	27,936,650
Foreign spirits.....	8,477,512	10,173,014	11,449,021
Wine.....	15,852,335	14,267,102	13,450,583
British wines, etc. (est.)	15,000,000	1,500,000	1,750,000
Total.....	972,876,311	£122,279,275	£123,143,863

The decrease in consumption in 1880, as compared with 1879, was £5,864,588, or 4·6 per cent. In 1860 the drink bill was £86,897,683. With two or three trifling exceptions, it continued to grow, year by year, until in 1876 it reached the enormous total of £147,288,760. In 1877 it fell to £142,009,231; in 1878 it rose a little, being £142,188,900; since 1878 it has fallen, as the table shows.

An analysis of the expenditures of the people by a leading statistician, Leoni Levy, makes out the annual sums and the proportion of the total national income expended on various classes of necessities and superfluities as follows:

NATIONAL EXPENDITURE FOR—	Amount.	Per cent.
Food and drink.....	£349,200,000	51·0
Dress.....	123,300,000	18·0
House, coal, gas, and water....	108,500,000	15·9
Tobacco.....	3,000,000	0·4
Education.....	2,200,000	0·3
Literature, science, and art....	5,000,000	0·7
Newspapers..	3,500,000	0·5
Church.....	2,400,000	0·4
Theatres and music-halls.....	1,600,000	0·2
Sport and other amusements...	1,500,000	0·2
Taxes.....	7,000,000	1·0
Cost of distribution.....	77,500,000	11·4
Total.....	£684,700,000	100·0

The cost of distribution is reckoned at 20 per cent of the retail prices. Items not included in the estimate are domestic service, medical attendance, traveling, carriages and horses, charity, etc. The total national income is estimated to be £915,000,000, on £495,000,000 of which income-tax is paid, and on £420,000,000 none. Taking the number of popula-

tion to be 35,246,562, as according to the last census, the expenses enumerated above amount to £19 per head per annum, or 12·71*d.* per head per day.

GREECE, a kingdom of Southeastern Europe. Reigning King, George I, born December 24, 1845, second son of the reigning King of Denmark; elected King of the Hellenes by the National Assembly of Athens, March 18 (30), 1863; accepted the crown June 6, 1863; declared of age by a decree of the National Assembly, June 27, 1863; married October 27, 1867, to Olga, daughter of the Grand Duke Constantine of Russia, born August 22, 1851. Their children are: Constantinos, Duke of Sparta, born August 2, 1868; George, born June 24, 1869; Alexandra, born August 30, 1870; Nicholas, born January 21, 1872; Maria, born March 3, 1876; Olga, born April 6, 1880.

The area is 65,229 square kilometres; the population, according to the census of 1879, 2,067,775.*

The movement of population was as follows:

YEAR.	Marriages.	Births.	Deaths.	Excess of births.
		Exclusive of still-births.		
1875.....	10,250	44,386	30,936	13,450
1876.....	9,753	47,248	31,083	16,165
1877.....	9,472	46,355	31,280	15,075
1878.....	8,603	44,921	30,588	14,333

The receipts and expenditures in the budget of 1881 were as follows (value in drachmas; 1 drachma = 19·3 cents):

RECEIPTS.		Drachmas.
Direct taxes.....		10,596,000
Indirect taxes.....		24,800,000
Posts and telegraphs.....		1,354,200
Public domains.....		2,780,360
Sale of national lands.....		4,128,000
Miscellaneous receipts.....		4,997,000
Church revenues.....		396,000
		49,051,560
EXPENDITURES.		Drachmas.
Public debt.....		21,023,000
Pensions.....		8,889,960
Civil list.....		1,125,000
Chambers.....		560,000
Ministry of Finance.....		1,629,798
“ “ Foreign Affairs.....		1,639,236
“ “ Justice.....		3,018,288
“ “ the Interior.....		5,249,859
“ “ Public Worship and Education.....		2,477,385
“ “ War.....		71,323,580
“ “ Navy.....		5,232,680
Cost of collecting the revenue.....		2,453,103
Miscellaneous.....		4,483,200
Total.....		124,155,139
Deficit.....		75,103,579

The foreign debt in 1881 amounted to 320,-215,176 drachmas, the home debt to 170,192,-133 drachmas—in all, 490,407,309 drachmas.

The Greek army, according to a royal decree of January 8, 1881, is to be as follows:

* Inclusive of Thessaly and Epirus, ceded by Turkey in 1881. For a table showing the area and population of each of the nomarchies into which the kingdom is divided, see “*Annual Cyclopædia*” for 1879.

	Officers.	Men.
Ministry of War and staffs.....	104	115
Infantry.....	1,004	56,821
Cavalry.....	87	2,769
Artillery.....	196	6,739
Engineers.....	120	4,514
Gendarmes.....	89	5,258
Sanitary troops, etc.....	552	3,714
	2,152	79,925

The fleet in 1881 consisted of 15 vessels, of 9,562 tons with 68 guns. Of these, two were ironclads, of 2,480 tons, 200 horse-power, and with eight guns.

The imports in 1875 amounted to 114,486,-000 drachmas, and the exports to 75,764,000 drachmas.

The only railroad is the line connecting Athens with the Piræus, which is 12 kilometres long. The telegraphic lines in 1879 were 4,009 kilometres and the wires 5,006 kilometres long. The number of offices was eighty-three, and the dispatches 331,059. The number of post-offices in 1878 was 145; the number of letters carried, 3,215,232; of postal cards, 12,168; of newspapers, 2,340,884; of printed matter and samples of merchandise, 41,990.

Preparations for a war with Turkey, and the conquest of the provinces of Thessaly and Epirus, which were awarded to Greece by the Conference of Berlin, were in full progress in the beginning of the year. A new loan of 128,000,-000 francs was voted, and an advance of 25,-000,000 francs given immediately. The guarantees for the loan were the tax on tobacco, the proceeds of the sale of national lands, and the privilege of issuing bank-notes in Thessaly and Epirus after the annexation. The Chamber adjourned on the 3d of January, after the passage of the bill, till the 27th of the same month. The National Guard, composed of the men between thirty and forty years of age, and also the reserve, numbering 10,000 or 15,000, were called out in January, thus increasing the strength of the army to 80,000 men. The message of the French Secretary for Foreign Affairs, denying that the settlement of Berlin was binding on Turkey or guaranteed by the powers, created a feeling of dread and dismay. But no party expressed itself in favor of submitting the boundary question to re arbitration. Coumoundouros, the Prime Minister, who had shown no hesitation in placing the army on a war footing, in his public utterances expressed hopes of the pacific termination of the dispute and of harmony with the will of Europe, but carefully avoided any words which implied a waiver of the claims founded on the award of Berlin. Trikoupis, the leader of the Opposition, which was as strong in the Legislature and in the country as the Government, was the spokesman of the most belligerent and uncompromising upholders of the Berlin line. Any sign of yielding to the diplomatic pressure would be the signal for the overthrow of the ministry. The people were entirely in earnest in their warlike aspirations. They fully expected to

march into the border provinces on the melting of the snow. The belligerent sentiment was stronger in the country districts than at Athens.

The Chamber resumed its sessions after the holiday recess in the first week of February. The Opposition leader, Trikoupis, stormed the ministry with questions regarding the diplomatic negotiations, the military preparations, etc. The Opposition had been re-enforced by several seceders from the ranks of the ministerialists. The more moderate and pacific tone which Coumoundouros had lately taken, under the influence of foreign diplomatists, was prejudicial to his popularity. The Minister of Finance, Sotiropoulos, had sent in his resignation upon the rejection by the budget committee and a Cabinet council of a proposition to substitute a land-tax for the tax on live animals, but remained in office at the solicitation of his colleagues and the King.

The Greek army mustered not more than 7,000 men in the middle of 1880, before preparations began for a war with Turkey. Before the end of the year there were twenty-three battalions of infantry ready to march, containing 28,750 men, and a rifle corps of 9,600 men, besides two regiments of cavalry, sixteen batteries of artillery, and three engineer battalions, giving a total fighting strength of 44,830 men, not counting 4,000 gendarmes, 4,000 non-combatants, and 9,000 reserves. The discipline and efficiency of the Greek army were astonishing, considering the brief period of training it had. The Greeks boasted that they could throw 60,000 men into the border provinces. Turkey had, meantime, been arranging her finances and organizing her army for defense, and claimed to have ready 60,000 troops to hold the Thessalian plain, and 40,000, besides the local Arnaut irregulars, for the protection of Epirus. The actual Turkish garrisons in the provinces at the beginning of the year were only about one quarter as strong, being some 11,200 men of all arms in Epirus, and probably a slightly stronger force in Thessaly.

In the beginning of March, just before the opening of the conference in Constantinople, war material was landed at Volo, and preparations were made for a strong defense of Thessaly in case the Greeks crossed the border. No such precautions were necessary for the defense of Epirus. The Greek Thessalians were quiet, but there was no doubt that they would rise in a mass at the first approach of the Greek battalions. The Turkish troops in Thessaly had been increased to 29,700, with 42,000 more ready to march at the first call. Every menacing move on the part of Greece was met by counter-preparations as effective. The Greek Government issued an order calling out the National Guard on the 7th of February. When mustered at Athens they displayed great enthusiasm.

Strategical considerations had much weight with the Porte to deter it from granting terri-

torial cessions, except under extreme outside pressure, to the despised Greek nation. If it parted with Mezzovo, in the Pindus, it would relinquish an important military point, which commands not only the whole of Epirus, but Southern Albania as well. If Larissa were given up, one of the most important provinces of the southwestern Balkan region would lie at the mercy of an invading army. Janina was the most important strategic position of all. Macedonia would remain to Turkey, but, shut in between the enlarged Greece and Bulgaria, with a preponderant Bulgarian population, and with Austria reaching out to acquire the Salonica Railway line, which extends through the length of the province, it also seemed to be doomed if Thessaly and Epirus were given up.

The Treaty of Berlin fixed the two extremities of the new boundary-line at the mouths of the Kalamos and the Salambria Rivers, and directed that it should follow the general course of the two valleys. The after-conference settled on a line with curves, extending northward of a straight line between the two points, and giving to Greece Larissa, Janina, and Mezzovo. The Porte insisted on retaining these places, at the conclusion of the Berlin Conference, but appeared to be reconciled later to the cession of Larissa.

Barthélemy Saint-Hilaire, the French Minister for Foreign Affairs, dispatched about the beginning of the year a circular note to French representatives at European courts, in which he appealed to foreign cabinets, and to the Greek Government and the Porte, to have the Greek boundary dispute referred to the arbitration of the European powers. He pictured the dangers of a conflict between Greece and Turkey in terms more earnest and graphic than are customary in diplomatic documents. The slumbering passions and ambitions of the other races of European Turkey would be kindled by the example of Greece, and the whole Balkan Peninsula would soon be aflame with war. Europe would be obliged to intervene, and the resulting complications would involve the continent in the horrors and devastations of a general European war. The claims of Greece to the enforcement by the powers of the delimitation of the boundary proposed at the Berlin Conference, the French minister denied. The powers agreed in the Berlin Treaty to intermediate for the settlement of the boundary between Turkey and Greece, if invited. When Turkey and Greece had failed to come to an agreement at Prevesa and at Constantinople, in 1879, the intermediation of the powers was appealed to, and their engagement was discharged by the conference at Berlin in 1880, at which a boundary-line was recommended to the disputants to serve as a basis for specific negotiations. Greece accepted the counsel of the mediators, but Turkey rejected their proposals, which she was entirely free to do. The French note was dated December 24, 1880.

The position taken by France, repudiating the idea that France or Europe had promised or guaranteed to Greece the boundary proposed by the conference of the signatory powers held in June, 1880, at Berlin, was formally declared to the Greek Government in a dispatch of Barthélemy Saint-Hilaire to the French minister at Athens, Count Mony, dated December 28th. He appealed to the Greeks to submit the dispute to arbitration. The conference had suggested an extension of Greek territory of 20,000 square kilometres, and a court of arbitration could not be expected to reduce it by as much as 2,000 or 3,000 square kilometres. If Greece should reject the valuable accession of territory which would certainly be decreed to her without cost by the arbitrators, and should elect to plunge into war for the sake of a small additional extension, when the whole of the territory claimed now belongs in fact and of right to Turkey, then the civilized world would do best to leave to Greece the entire responsibility for the terrible consequences. In the complications which would result, the national existence of the Greek monarchy would not, improbably, be blotted out.

In a dispatch, dated January 7th, Barthélemy Saint-Hilaire again reviewed the situation, and emphasized his construction of the relations of the powers to the Greek question.

On the 20th of January Premier Coumoundouros addressed to the powers a circular note on the Greek claims. The Berlin Congress, recognizing the precarious state of feeling in Epirus and Thessaly, and the danger to the peace of the Orient arising from the existing condition, adopted the thirteenth protocol, relating to the rectification of the boundary. The Porte endeavored to circumvent the decision of the international Areopagus, after signifying its acceptance in principle. The negotiations over the particulars were continued over three years without results, so that the supplementary conference became necessary. The conference of 1880 settled upon a boundary-line which satisfied the requirements of the Treaty of Berlin. The Porte then recognized the authority of the decision, which was spoken of as assigning important provinces to Greece. Now it is sought to interpret it as a mere recommendation, the execution of which might be refused or deferred indefinitely. The Turkish policy of procrastination has no other aim than to stir up race passions in the border provinces, for the purpose of changing the proportions of the different nationalities in the population, and to tire out the Hellenic kingdom, which had made military preparations to occupy the territory assigned to it by the decree of Europe, and to restore order there. Europe ought to take measures to carry out the decision, and remove the cause of the strained and embittered state of feeling which was continually growing worse, and the dangers to the border provinces, to Greece, and to Turkey, which were imminent.

In a letter of instructions to Turkish ambassadors, dated the 14th of December, the Porte offered to confer with the great powers concerning the Greek boundary, through their ambassadors at Constantinople, but refused to submit the matter to a court of arbitration. The government at Athens likewise rejected the proposal for a new arbitration.

The preliminaries to the conference proposed by the Porte were protracted till March. The Greek and Turkish Governments were prevailed upon to engage that no offensive steps would be taken before the negotiations with the powers were ended. Greece was informed that no aid would be extended by the powers, in case she refused to accept the boundary agreed upon. The Cabinets of Berlin and Vienna were in accord with the position taken by the French Government. To this the British ministry also gave a formal adherence, in order to not break the European concert, but was inclined to uphold the guarantee of the Berlin Conference, and anxious to safeguard the interests of Greece.

Messinesis, of Ægion, interpellated the government in the Chamber, February 24th, with reference to the diplomatic steps taken. He dilated upon the wrongs committed upon the Greeks in Thessaly, the severity with which the poll-tax was being collected, and the imprisonment, proscription, and barbarous treatment of the Hellenes. In Epirus and Albania, as well, the Greek population was driven into banishment and thrown into prison by thousands, and whole towns were destroyed through the atrocities of the irregular soldiery from Asia, which had been let loose upon the land.

Coumoundouros answered that all had been done which a Greek Government could do for their oppressed brothers; that they knew nothing about negotiations in Constantinople, and acknowledged only one decision of Europe, that of the Berlin Conference.

About the 1st of March, the Minister for Foreign Affairs and Premier, Coumoundouros, was visited by the ministers of the treaty powers in a body. In answer to an interrogatory in the Chamber regarding the circumstance, he gave the information that it was to notify him that fresh negotiations for a peaceful compromise had been entered upon at Constantinople, and that the Porte had promised not to commence hostilities pending the consultations, and to obtain from him a like assurance; to which request he gave the following answer: "The King's government will be guided by the wishes of the powers, as it always has, in the past. It will abstain from any hostile act against the neighboring state, in the hope that the negotiations commenced in Constantinople will speedily confirm and regulate the execution of the award of Europe."

The first proposition made by the Porte to the conference was the transfer of Crete, and the cession of the portion of Thessaly between the existing boundary and the Peneus.

This arrangement was warmly approved by Count Hatzfeld, the German ambassador, and favored by all the others except the British representative. The latter would not hear of the substitution of the great island which guards the *Ægean*, just as Beaconsfield and Salisbury opposed its cession when demanded at the Berlin Congress by the Greek delegates, Brailas and Delijannis, and approved by Waddington. The Porte now withdrew this proposition, and promised to grant nearly the whole of Thessaly and a small strip of Epirus, including a part of the coast of the Gulf of Arta, but retaining Prevesa as well as Janina and Mezzovo. Goeshen insisted upon the cession of the entire Gulf of Arta. The ambassadors, after prolonged discussion of the arrangement to which the Porte had been induced to accede, and after modifications favorable to Greece were agreed to, all concurred in the settlement and obtained the approval of their governments. The acceptance of the compromise by Greece was then all that was wanting. The unanimous agreement of the powers in the new settlement had the legal effect of annulling the former decision. The conclusions were communicated to the Greek Government in an identical note from all the powers. The Porte announced that in case Greece rejected the offer it would recall its proposal. The note expressly declared that Greece, if she refused the conditions which the powers had procured on her behalf, and should proceed to enforce her demands with arms, would stand entirely alone and must bear the consequences. Coumoundouros, before the reception of the identical note, sought to rob it of a part of its force, and leave the way open for further pretensions to Epirus, by a circular to the powers.

The new boundary-line adopted by the Constantinople Conference commences at the *Ægean* coast a little to the north of Kara Dervent, curves slightly to the southward, and ascends again, striking the line of the Berlin Conference in the vicinity of Tehula, which it follows for 30 or 35 miles in a westerly direction, then trends southward, leaving Mezzovo and Janina on the Turkish side, striking the Arta River, which it follows to its mouth. The fortress of Punta is given to Greece; Prevesa remains in Turkish hands, but its fortifications are to be razed; while the navigation of the Gulf of Arta is to be free. These latter conditions were imposed upon the Porte by the powers. The powers engaged to see that the arrangement was carried out, and the territory given over to Greek possession.

The extent of the ceded territories is about two thirds of the area awarded by the Berlin Conference. It contains 265 geographical square miles. The Turkish official almanac gives the male population of the ceded districts in Thessaly as 20,000 Mohammedans and 150,000 non-Mohammedans, composed of Greeks and Pindus Wallachians, and the male population of the district of Arta as 4,000 Mohammedans and

20,000 non-Mohammedans, the latter consisting of Græco-Wallachians, Pindus Wallachians, and Zinzarians or Macedo-Wallachians. Of the 140,000 Christian inhabitants about 114,000 are of pure Greek blood, 14,000 are of mixed Greek and Wallachian descent, and 12,000 are pure Wallachians. The Mohammedan element is most thickly settled in and about Larissa and Phersala, occupying the most productive portions of the annexed territory. The Wallachians are thickest in the southern parts of the Pindus Mountains, in the northern end of the Arta Valley, and on the southwestern slope of Olympus. The Græco-Wallachians are found everywhere in the border-lands between Greek and Wallachian settlements.

The new boundary-line starts from Kara Dervent, on the Gulf of Salonica, 5½ miles below Platamana, and on the northern edge of the bottom-land at the mouth of the Salambria. It follows the southernmost ridge of the Olympus, passing north of Lividaki Lake and over the heights of Analipsis and Hodaman. From here it takes first a southwesterly direction, crossing the summit of Meluna, afterward a southerly one along the Kritiri chain to the Xeria River. Elassona, the industrial town Cherichina, and the mountainous district to the north, which were given to Greece by the Berlin Conference, remain Turkish. The line takes a westerly direction between the Salambria and Xeria Rivers, passing the villages of Flamuristi and Gavronon, and merges in the line of the Berlin Conference five kilometres northwest of the latter place. It diverges from this again in order to leave on the Turkish side the important strategic point of Mezzovo with the Zygos Pass, and is marked by the summits of Mavromuni, Doshimi, and the gigantic Peristeri. It then passes into Epirus, following a mountain creek, the Kalarytes, down to the Arta, near the village of Michalici, and transects the valley of the Arta down to the Ambrakian Gulf. Two thirds of the drainage basin of the Arta fall to the share of Greece. The peak of Actium, or Punta, is on the Greek side, and its fortifications must be dismantled.

The intensest excitement prevailed throughout Greece when the news came that the powers had approved, with some modifications, the boundary-line proposed by the Porte, instead of maintaining the frontier adopted by the Berlin Conference. The "*Æon*" newspaper struck a note to which every heart responded when it called to arms and appealed to the Panhellenic idea:

Europe, which has torn up its own work, may not seem to be the friend and well-wisher of Greece, and philippics are written fulminating wrath, if the will of Europe is defied and its decree set at naught.

But the essence of the matter is, that Europe, even against its will, is on our side, and can not act otherwise than in our favor. Though a thousand protocols and declarations be written down; though warnings, ay threats, be denounced against us, all will vanish like bubbles at the first breath, so soon as we

on our part adopt a firm policy and a manly determination to tread without deviation the path of national duty and of sacred interests. After Turkey has carried her arrogance and her contempt for Europe to the point of dragging Europe to Constantinople to tear up the decision of the Berlin Congress—who will maintain that Greece will be punished by Europe, when Europe has not punished Turkey?

Europe can not come out as our opponent if we proceed to the execution of its own decision, and supplement and complete it if possible. True, no treaty has been signed which guarantees us the alliance of Europe, and we have no protocol which assures us of aid and support in our struggle. But let us not forget that the true international treaties are not those written with ink and paper—the latest treaty, that of Berlin, shows us clearly how much weight written treaties possess. The true treaties of lasting value are the unwritten treaties of national rights and international interests, and these neither personal cavils nor diplomatic artifices can destroy or impair. Such true and irreversible compacts subsist between us and Europe, between us and the whole civilized world. Greece represents in the Orient, not conquest, but liberation; not robbery and extortion, but creative effort and peaceful industry; not misery and decay, but progress and liberty.

It was feared that the dissatisfaction of the Greeks at the change in the boundary arrangement would still prevent a peaceful settlement; that they would either reject the offer outright or delay their answer so long that Turkey would withdraw her propositions. Within the proper time Coumoundouros returned, April 7th, a cautiously worded note in which he accepted the promised territory, demanded that the powers should secure its evacuation, and committed the welfare of the Epirotes to the guardianship of Europe, without renouncing the prospects held out by the Berlin decision of the amalgamation of Epirus with Greece. The acceptance of the proffered cession was couched in the following words:

Greece, though pained to see substituted for the decision of the Conference of Berlin another boundary-line, hastens nevertheless to thank the powers for their benevolent interest. She desires to know what term will be set for the occupation, and what guarantee will be offered that the occupation will be accomplished without bloodshed.

The representatives of the powers objected to the form of the acceptance, and on the 13th of April Coumoundouros substituted the following document, which was approved as a formal acceptance of the conditions:

When the Greek Government accepted the serious decree of the Berlin Conference, the Government considered, as it considers to-day, that the decision of the great powers of Europe created rights and obligations affecting both Turkey and Greece, and the inhabitants of the provinces which were awarded to Greece as well as Europe. To-day the great powers come forward to inform Greece that since, through the force of circumstances, the conclusions laid down in the Berlin decision can no longer attain the peaceable fulfillment which the Cabinets had in view, these have instructed their ministers in Greece that they should consider and establish among themselves the boundary-line which best suits the requirements of the situation. The conclusions of the ambassadors, which Europe has adopted and expressly substituted for those of the decree of July 1, 1880, alter in a radical manner the boundary-line of the Berlin Conference; they put in the place of it a new boundary-line, the

main positions on which afford no sort of security and lack every requirement for natural defenses. This line, whose defects must occasion inevitable difficulties in the present and danger for the future, Greece is expected, according to the dispatch which has been received, to accept at once. In regard to this invitation of the powers, Greece could not avoid reflecting as to whether its acceptance would bring the question nearer to a conclusion, whether it would insure the complete, rapid, and peaceful solution of the difficulty. The experience of the past, the fate of the arrangement concluded in Berlin, the effect of the acquiescence expressed by Greece in the conclusions of the conference—all this has not encouraged the Hellenic Government to give an affirmative reply. Hence it is of importance to her to learn when the new decision of Europe shall be carried out; whether the peaceable delivery of the territories ceded to Greece will be effected immediately, or within a stated, brief period; and finally, to be enlightened as to the guarantees which the powers would give that it would take place. The Greek Government is pained to learn that the prospect of a breach of the peace has been sufficient to impel Europe to modify the decision reached in Berlin. Greece would never have supposed that Turkey would refuse to submit to the arbitration of the great powers in such manner as to oppose their firm and unalterable will and expose herself to all the eventualities of a war whose consequences and extent she herself could not calculate. Greece desires peace; she rests in the hope that the great powers will take into serious consideration her appeal to their sense of right, that they will weigh it in the same spirit of good-will which has ever guided them in their decisions upon Greece and the Hellenes. Greece is grateful to Europe for the peaceful solution of the question of the Greek boundaries. She will therefore hasten to take possession of the territories which she is to receive, and to offer all guarantees that may be desired for the benefit of the Mussulmans of the annexed provinces, both with regard to their religion and respect for their rights of property. But though resolved to take the peaceful course which has been pointed out to her by Europe, whose counsels she has at all times been accustomed to respect, Greece believes it to be neither a dignified nor an honorable proceeding on her part toward children who remain on the other side of the new boundary, and whose rights Europe solemnly acknowledged at Berlin, and has repeatedly confirmed, to leave them to their fate.

COUMOUNDOUROS.

As soon as the conditions of the new adjustment were made public, the military ardor of the Greeks abated. In the country demonstrations in favor of war took place, but at Athens the party of Trikoupis as well as the adherents of the Government approved the tranquil acceptance of the situation. There was a party which would have embraced the opportunity afforded by any wavering on the part of Turkey to agitate in favor of breaking off from the agreement. The powers addressed a collective note to the Porte, urging that the terms of the settlement should be drawn in a formal convention without delay. The Greek frontier commission met to arrange the terms of the convention in the middle of May. The convention between the Porte and the powers was concluded and signed at Constantinople, May 24th. The Ottoman delegates on the commission presented stipulations for insuring the religious, civil, and property rights of Mussulmans in the ceded provinces. The Porte demanded among other terms that Mussulman communities should choose their own officials,

that the formalities of the Ottoman law should be observed in the case of any person changing his religion, and that questions of marriage or succession between Mussulmans should be judged by Mohammedan tribunals, which should retain their connection with the Sheik-ul-Islam. Some of the demands were rejected, as not transferring in full sovereignty of the province. The delegates of the powers added to the document the line of the new frontier, and conditions as to the time and mode of evacuation. The transfer of the territory was to begin immediately, under the superintendence of an international military commission. The Turkish authorities proceeded leisurely to prepare for the evacuation. A convention identical in substance with that made with the powers was concluded between the Porte and the Hellenic Government. This document was signed July 2d. The direction of the evacuation was intrusted to Dervish Pasha, the officer who effected the transfer of Dulcigno to Montenegro. Arta was handed over to the Greek authorities on the very last day allowed by the terms. Punta had been evacuated by Hidayet Pasha through a mistake the preceding day, but being reoccupied before the entry of the Greeks a possible collision was averted. There was a considerable exodus of Mohammedans previous to the occupation, but this soon stopped, and many of those who left returned. Excellent discipline was maintained in the occupation by the military of the successive zones evacuated according to the stipulations of the convention, and ready money was paid for all supplies. The Turkish officials had collected the taxes for the current year before leaving. A difference arose between the Turkish members of the commission and the representatives of the powers regarding the delimitation of the new frontier in Thessaly. The latter maintained that the line should run, according to the convention, between Hritiri and Zarko along a crest of hills northward of the Salambria, while the Turkish representatives insisted on carrying it across the river. This was made the subject of a note from the ambassadors to the Porte.

The special Turkish post-office at Larissa was abolished by the Greek Government. The Ottoman Government thereupon addressed a note to the Greek Government demanding that all the Greek post-offices in the Turkish Empire should be closed. The Greek minister to Turkey, Condouriotis, replied that the Hellenic Government maintained separate post-offices in Turkey, the same as the other powers, and under the most-favored-nation clause in the treaty of commerce, whereas the operation of foreign posts in Greece was forbidden by the Constitution.

GUATEMALA (REPÚBLICA DE GUATEMALA), one of the five independent states of Central America, has still to settle the old question of limits with Mexico, and determine the ownership of the territory of Soconusco, which has

long been administered by and regarded as forming a part of the Republic of Mexico. In 1881 Guatemala applied for the friendly intervention of the United States; but Mexico refused to submit to arbitration or even discussion of the question, asserting her right to the disputed territory by option of the inhabitants themselves, and an undisturbed possession for fifty years.

Statistics concerning area, territorial division, population, etc., will be found in the "Annual Cyclopædia" for 1875 and 1880. In the late census returns, published on October 31, 1880, the population of the republic was set down at 1,400,000, against 1,197,054 in 1872; and the population of the capital at 62,186. The civil registry office recorded during the year 1880, 31 marriages; 165 naturalizations; 18 strangers domiciled in the city; 54 men and 69 women recognized as legitimate children; 755 men and 751 women died; and 634 male and 556 female children born. The number of births for the whole republic was 48,927; that of the deaths, 23,346; increase, 25,581.

The President of Guatemala is General Rufino Barrios, elected May 7, 1873, for a period of six years. His term of office was prolonged by decree of the Constitutional Assembly under date of October 23, 1876; and he was re-elected March 15, 1880, for a period of six years. The Cabinet was composed of the following ministers: Foreign Affairs, Dr. Lorenzo Montúfar; Interior, Dr. F. Cruz; War, Señor J. M. Barrundia; Public Instruction, Señor Delfino Sanchez; Agriculture, Señor A. Peña; Public Works, Señor M. Herrera.

The Guatemalan Minister to the United States is Señor Don A. Ubico; and the Consul-General (for the Union) at New York, is Señor Don Jacobo Baiz.

The United States Minister to the five Central American republics (and resident in Guatemala) is Dr. Cornelius A. Logan; and the United States Consul at Guatemala City, Mr. J. F. Medina.

The armed force of the republic comprises 2,180 men in active service and 33,229 militia.

The organization of a police force has been reported, under the direction of an ex-police official from New York, who appears also to have been intrusted with the framing of a special code for the regulation of the force.

The report of the Inspector of Public Instruction* for 1880 shows decided progress in educational affairs. In six of the superior institutions of learning the cost to the public Treasury was \$104,393.96, in addition to considerable sums received from pupils and for examinations and degrees. The schools were in a high state of efficiency, increasing attendance, and the appropriations for school funds on a correspondingly higher scale than for any other year. The fostering of education has been one of the constant cares of the Presi-

* See "Annual Cyclopædia" for 1880, p. 850.

dent, and he is well seconded in his efforts by the enlightened zeal of the present Minister of Public Instruction, Don Delfino Sanchez. The "Institutos" of Guatemala and Quezaltenango, and the colleges for females in both towns, are establishments worthy of a progressive government and country. "Belen," with its efficient staff of lady professors, principally foreigners, excites universal admiration for its excellent management and the rapid progress of its pupils. This is the favorite educational establishment, and here the daughters of the leading members of society receive their education, side by side with many who are maintained at the public expense, with the expectation that they will afterward devote part of their time to the education of their less fortunate sisters, as teachers in the public schools that now exist throughout the republic.

The national revenue and expenditures for the year 1879 were as exhibited in the subjoined tables:

REVENUE.	
Balance from preceding year	\$21,617
Customs receipts.....	2,510,369
Taxes, etc.....	99,123
Monopolies.....	32,305
Reimbursements, interest, etc.....	18,869
Loans.....	1,316,223
Deposits.....	64,359
National Bank.....	337,862
Sundries.....	89,025
Total.....	\$4,584,757

EXPENDITURE.	
Administration.....	\$2,728,456
National debt.....	1,000,382
Railways.....	200,000
Reimbursements.....	416,789
Arrears.....	151,781
International Bank.....	1,419
Sundries.....	27,887
Total.....	\$4,526,664

Surplus..... \$8,908

The national debt was officially reported as follows on January 1, 1880:

Foreign debt.....	\$3,304,966
Home debt.....	4,029,392
Total.....	\$7,334,358

This total shows an increase of \$1,964,829 as compared with the showing for January 1, 1879.

In the annual report of the Corporation of Foreign Bondholders, published in 1881, the statement concerning the Guatemala indebtedment growing out of British loans figured as follows: approximate principal unredeemed, £542,200 (\$2,711,005); total, with overdue interest, £712,392 (\$3,561,960).

We transcribe the following extract from the semi-annual returns of the International Bank of Guatemala for the period ending June 30, 1881; the situation described therein being as satisfactory as the showing of other prosperous banks in larger commercial centers: There are ninety-one subscribers to its funds, who, on a nominal capital of \$910,000, have paid up \$637,000. Cash in hand, \$379,831.17; cash in

agencies, \$70,007.12; bills receivable, \$1,202,-825.90; various debtors, \$233,510.63; shares of the Bank of Salvador, \$70,000; United States bonds, \$57,612.50, etc. Bills of the bank circulated to the amount of \$276,652. The reserve has been increased to \$64,000, and the dividend-fund is \$20,686.74. Discounts during the six months footed up to \$2,063,-224.70. The exchange business during the six months was profitable, and promises to be still more favorable on account of special advantages obtained for the bank in Europe, by Mr. J. F. Medina, the former manager. The net profits of the concern were \$66,050.52 for the six months, out of which a dividend of \$500 per share was paid, or at the rate of over 14 per cent per annum on the paid-up capital of the bank.

The exports and imports, with the destinations and sources thereof respectively, were as follows for 1880:

EXPORTS.	
DESTINATION.	Values.
Great Britain.....	\$885,000
United States.....	1,776,000
France.....	727,000
Germany.....	860,000
Various.....	227,000
Total.....	\$4,425,000

IMPORTS.	
SOURCES.	Values.
Great Britain.....	\$1,087,000
United States.....	645,000
France.....	536,000
Germany.....	425,000
Various.....	392,000
Total.....	\$3,085,000

The quantity and destinations of the coffee exported in 1880 were as below:

		Lbs.
Great Britain.....		5,907,600
France.....		5,083,884
Germany.....		5,822,202
United States	New York... 3,192,185	11,385,606
	San Francisco 8,143,421	
Belize.....		246,335
South America.....		356,858
Belgium.....		171,360
Italy.....		40,380
All other destinations.....		12,522
Total.....		28,976,267

The imports from the United States were as follows in 1880: from New York, \$141,591.43; from California, \$502,995.26; from New Orleans, \$11,367.12; total, \$656,913.81. The exports to the United States, in the same year, were of the total value of \$1,776,214.70.

The work on the branch of the railway from Escuintla to the capital had been commenced; and a concession for the construction of a line from Santo Tomás, on the Atlantic coast, had been granted to Larrondo Brothers; distance, 240 miles; estimated cost, \$14,000,000. This new line, if built, will materially facilitate our trade with Guatemala, there being already a line of steamers plying between New Orleans and Livingston, near Santo Tomás.

Guatemala is now in the Postal Union.

GUITEAU'S TRIAL. Within a few days after the death of President Garfield proceedings were begun in the District of Columbia for bringing his assailant to trial on a charge of murder. At first a question of jurisdiction was raised, the death of the victim having occurred in the State of New Jersey. The opinion was expressed that the rule of the common law prevailed in the District, and that its courts could not have jurisdiction in a case of murder unless the death as well as the criminal act occurred within its boundaries. There was no doubt that the courts of New Jersey would have jurisdiction, inasmuch as the statute law of that State provided that both in the case of death within its limits from criminal injury caused elsewhere, and injury within its limits resulting in death elsewhere, indictment could be found and tried in the county within which either the death or the injury took place. At the request of Judge E. W. Scudder, of the Supreme Court of New Jersey, Attorney-General Stockton considered the question of the proper action to be taken in that State. He wrote to District-Attorney Corkhill, of the District of Columbia, stating that he should not advise any legal proceedings to be taken in New Jersey with a view to the punishment of the crime of Guiteau, unless he should be informed that it could not be punished under the jurisdiction of the courts of the Federal District. The District Attorney replied that he had no doubt that the law in force there would be found adequate to meet the case. Judge Scudder accordingly, on the 4th of October, charged the Grand Jury of Monmouth County that it would not be advisable or necessary "to take any action in this matter at the present time, unless we shall be notified that the prosecution and indictment of the offense in this county are required to prevent a failure of justice, which does not now appear probable, according to the statement made by the proper legal authority of the city of Washington."

The case had by this time been already brought before the Grand Jury of the District of Columbia on the evidence of Surgeon-General Barnes, who testified in relation to the wound; George W. Adams and Officer Kearney, who witnessed the shooting; and Dr. D. S. Lamb, who conducted the autopsy of the President's body. The presentment of the jury was made on the 4th of October, the indictment was found in due form a few days later, and on the 14th of October the prisoner was arraigned in court to plead to the indictment. In the mean time he had caused to be printed in one of the public journals a statement of facts and an explanation of his motives. In this he gave a long account of his career, his participation in the political canvass of 1880, and his efforts to obtain an appointment at the hands of the new Administration. He said:

My conception of the idea of removing the President was this: Mr. Conkling resigned on Monday, May 16,

1881. On the following Wednesday I was in bed. I think I retired about eight o'clock. I felt depressed and perplexed on account of the political situation, and I retired much earlier than usual. I felt wearied in mind and body, and I was in my bed about nine o'clock, and I was thinking over the political situation, and the idea flashed through my brain that if the President was out of the way everything would go better.

He then proceeded to give a detailed account of his preparation for the crime and of its execution, claiming that he was under a divine pressure which he could not resist. In regard to the legal aspect of the case and his defense, he said:

I shot the President without malice or murderous intent. I deny any legal liability in this case. In order to constitute the crime of murder two elements must co-exist. First, an actual homicide; second, malice—malice in law or malice in fact. The law presumes malice from the fact of the homicide; the degree of malice depends upon the condition of the man's mind at the time of the homicide. If two men quarrel and one shoots the other in heat or passion, the law says that is manslaughter. The remoteness of the shooting from the moment of its conception fastens the degree of the malice. The further you go from the conception to the shooting the greater the malice, because the law says that in shooting a man a few hours or a few days after the conception the mind has a chance to cool, and therefore the act is deliberate. Malice in fact depends upon the circumstances attending the homicide. Malice in law is liquidated in this case by the facts and circumstances, as set forth in these pages, attending the removal of the President. I had none but the best of feelings, personally, toward the President. I always thought of him and spoke of him as General Garfield.

At the request of the accused, his brother-in-law, George M. Scoville, of Chicago, took charge of his defense. Attempts to secure the aid of prominent lawyers, including R. T. Merrick, of Washington; Emory A. Storrs, of Chicago; and B. F. Butler, of Massachusetts, were unsuccessful, though Mr. Merrick expressed his willingness to argue the question of jurisdiction, if it were made an issue in the case. On his arraignment the prisoner pleaded "Not guilty," and desired to make a statement, but the privilege was denied, as not appropriate at that time. In arguing for a delay of the trial, Mr. Scoville stated that the defense would consist of two points: First, the insanity of the defendant; and, second, that the wound was not necessarily mortal, and was not the cause of death. The time of trial was fixed for November 7th, and it was intimated that there might be a preliminary consideration of the question of jurisdiction. This was not had, however, as the plea of "Not guilty" waived for the time the objection on this point. Subsequently Judge Cox, of the Criminal Court, assigned Mr. Leigh Robinson to be associate counsel for the defense; and Mr. Walter D. Davidge, of Washington, and John K. Porter, of New York, were employed to assist in the prosecution. A motion for the postponement of the trial to November 21st resulted in its being set down peremptorily for the 14th of that month. In the mean time an order was obtained from the

court permitting the summoning of twenty witnesses for the defense, at the expense of the Government.

On the first day set for the trial, lack of harmony appeared between the counsel for the defense. Mr. Robinson applied for a postponement; on the ground that he was not fully prepared, and was endeavoring to obtain additional legal aid. Mr. Scoville objected to his proceedings, declaring that he had not been consulted in the matter; and the prisoner violently demanded that Mr. Robinson "get out of the case." The prisoner also attempted to deliver an address to the court, but was not permitted to do so. The address was, however, published, and contained a reiteration of his motives in "removing the President," to save the Republican party, and prevent a new civil war; and of his claim that he was inspired by the Deity, and compelled to the performance of the act. No postponement was granted. After the jury-panel had been sworn, Judge Cox made the following observations regarding disqualifications for the required service:

Under the Constitution, the prisoner is entitled to be tried by an impartial jury. But an idea prevails that any impression or opinion, however lightly formed or feebly held, disqualifies from serving in the character of an impartial juror. This is an error. As the Supreme Court says: "In these days of newspaper enterprise and universal education, every case of public interest is almost as a matter of necessity brought to the attention of all the intelligent people in the vicinity, and scarcely one can be found, among those best fitted for jurors, who has not read or heard of it, and who has not some impression or some opinion in respect to its merits." If the prevalent idea I have mentioned were correct, it would follow that the most illiterate and uninformed people in the community would be the best qualified to discharge duties which require some intelligence and information. It is now generally, if not universally, agreed that such opinions or impressions as are merely gathered from newspapers or public report, and are mere hypothetical or conditional opinions, dependent upon the truth of the reports, and not so fixed as to prevent one from giving a fair and impartial hearing to the accused, and rendering a verdict according to the evidence, do not disqualify. On the other hand, fixed and decided opinions against the accused, which would have to be overcome before one could feel impartial, and which would resist the force of evidence for the accused, would be inconsistent with the impartiality that the law requires. There is a natural reluctance to serve on a case like this, and a disposition to seek to be excused, on the ground of having formed an opinion, when in fact no real disqualification exists. But it is your duty, as good citizens, to assist the court in the administration of justice in just such cases, unless you are positively disqualified, and I shall expect you on your consciences to answer fairly as to the question of impartiality, according to the explanation of it which I have given to you.

Three days were occupied in obtaining the jury, which was constituted as follows: John P. Hamlin, restaurant-keeper; Frederick W. Brandenburg, cigar-dealer; Henry J. Bright, retired merchant; Charles J. Stewart, merchant; Thomas H. Langley, grocer; Michael Sheehan, grocer; Samuel F. Hobbs, plasterer; George W. Gates, machinist; Ralph Wornley (colored), laborer; W. H. Brawner, commission-

merchant; Thomas Heinlein, iron-worker; Joseph Prather, commission-merchant.

On the day on which the jury was completed the prisoner, who claimed to be acting as counsel in his own defense, succeeded in having an appeal for aid "to the legal profession of America" published, in spite of the objection of Mr. Scoville.

The case for the prosecution was opened by District-Attorney Corkhill, on the 17th of November. He detailed to the jury the facts relating to the crime, and endeavored to show that it was planned and executed as the result of political disappointment, and for the purpose of revenge. In regard to the question of motives and purposes, as bearing on the legal aspects of the crime, he said:

The unlawful killing of any reasonable creature by a person of sound memory and discretion, with malice aforethought, either expressed or implied, is murder. The motives and intentions of an individual who commits a crime are of necessity known to him alone. No human power can penetrate the recesses of the heart; no eye but the eye of God can discern the motives for human action. Hence the law wisely says that a man's motives shall be judged from his acts, so that if one kill another suddenly, without any provocation, the law implies malice. If a man uses a deadly weapon, it is presumed he intended to commit murder, and in general the law presumes a man to intend the natural consequences of his act. Were there nothing more against the accused than the occurrences of the morning of July 2d, the evidence of his crime would be complete, and you would be authorized to conclude that he feloniously, willfully, and with malice aforethought, did kill and murder James A. Garfield. But crime is never natural. The man who attempts to violate the laws of God and society goes counter to the ordinary course of human action. He is a world to himself. He is against society, against organization, and of necessity his action can never be measured by the rules governing men in the everyday transactions of life. No criminal ever violated the laws who did not leave the traces of his crime distinct and clear when once discovered. So in this case we can only add to the enormity of this offense by showing you its origin, its conception, and the plans adopted for its execution.

On the same day Secretary Blaine and Señor Simon Comacho, Minister from Venezuela, were examined as witnesses of the act of shooting. Mr. Blaine was also examined with reference to the prisoner's persistent and unsuccessful application for office previous to his alleged conception of the crime. The next day was occupied with further testimony of eye-witnesses of the shooting, and the examination of the private secretary of the late President in regard to the efforts of the accused to obtain an appointment to office. Several letters relating to the application were put in evidence. In some of these the prisoner expressed his dissatisfaction with the conduct of Mr. Blaine, accused the latter of working for his own nomination for the presidency in 1884, and promised the President his influence and support for a renomination. He also intimated that the course of Mr. Blaine threatened to bring disaster to the Administration. The next two days were occupied with medical testimony in regard to the President's injury and its treat-

ment. The doctors who first examined the wound and attended the President throughout his illness gave their testimony, and Dr. Bliss was closely cross-examined in regard to the mode of treatment. The joint of the vertebral column which was perforated by the bullet was exhibited in court, and the character of the wound was fully explained, as well as the details of its treatment by the physicians. The part of the cross-examination intended to show maltreatment was strenuously objected to by the prosecution, and by agreement the doctors' record was submitted to the counsel for the defense. Dr. Bliss's last answer on the witness-stand was that the wound itself was necessarily mortal. On the 18th of November there was a somewhat exciting episode in an attempt to shoot the prisoner while on his way from the court to the jail in a van. A man on horseback followed the vehicle for some distance, and then riding rapidly past fired a pistol into it. The bullet grazed the prisoner's wrist, but did no serious injury. The assailant escaped at the time, but a man named William Jones was subsequently arrested, indicted for the assault, and released on bail.

The second week of the trial opened on the 21st, with a completion of the medical testimony in regard to the injuries of the deceased, and this concluded the presentation of the case on behalf of the prosecution. The same day Mr. Robinson withdrew from the case, in consequence of discord between himself and the other counsel, and the opening for the defense was begun. An opportunity was first given the prisoner to speak in his own behalf, but he merely made a few remarks, saying that he thought the true way for him was "to interject statements as the case proceeds." Mr. Scoville's address, which was begun November 21st, and occupied the whole of the next day and part of that which followed, was devoted to setting forth the defense of insanity, on which alone he relied. He gave an account of the Guiteau family, with a view of showing an hereditary taint, and detailed the career of the prisoner, his early training, peculiar religious views, experience as a member of the Oneida Community, efforts as a practicing lawyer and a lecturer on theological subjects, his projects for establishing newspapers, and his extravagant political aspirations. He claimed that all this tended to show insanity, and would be duly proved. On the 23d of November testimony for the defense began. The proceedings were constantly interrupted by the prisoner, who contradicted the witnesses and criticised the course of counsel. Intimations of gagging and of removal from the court-room failed to repress him. On the second day of the examination of witnesses for the defense he read a statement in which he said:

I propose to have all the facts bearing on this case to go to the court and the jury, and to do this I have been forced to interrupt counsel and witnesses who

were mistaken as to supposed facts. I meant no discourtesy to them or to any one. Any fact in my career bearing on the question who fired that shot, the Deity or myself, is of vital importance in this case, and I propose that it go to the jury. Hence my personal, political, and theological record may be developed. I am glad that your Honor and the opposing counsel are disposed to give an historical review of my life, and I ask the press and the public to do likewise. All I want is absolute justice, and I shall not permit any crooked work. I have no idea my counsel want crooked work. They are often mistaken in supposed facts, and I shall have to correct them. Last spring certain newspapers in New York and Washington were bitterly denouncing the President for breaking up the Republican party by improper appointments. I would like those newspapers to reprint those editorials now, and see how they would look and sound. In attempting to remove the President, I only did what the papers said ought to be done. Since July 2d they have been defying the President, and denouncing me for doing the very thing they said ought to be done. I want the newspapers and the doctors, who actually killed the President, to share with me the odium of his death. I never would have shot him of my own volition, notwithstanding those newspapers, if I had not been commissioned by the Deity to do the deed. But this fact does not relieve the newspapers from the supposed disgrace of the President's removal. If he had been properly treated, he would have been alive to-day. It has been published that I am in fear of death. It is false. I have always been a religious man and an active worker for God. Some people think that I am a murderer, but the Lord does not, for he inspired the act, as in the case of Abraham and a score of other cases in the Bible.

Several days were occupied with testimony relating to the family and personal history of the accused, which was intended to sustain the theory of an hereditary tendency to insanity and the progressive development of mental aberration in the prisoner himself. He was placed on the witness-stand to testify in his own behalf on the 29th of November, and examined for four days. Before he began his testimony, several of his letters to different members of his family were read and put in evidence. The prisoner, in response to questions of his counsel, gave a detailed account of his own recollection of incidents in his past life, his early training, religious views, experience as a member of the Oneida Community, which he was induced to join by his father, and his subsequent efforts as a lecturer, a lawyer, and a politician. He also gave an account of his conception of the idea of removing the President in order to heal the breach in the Republican party and save the nation from peril, claiming to have acted under inspiration and divine "pressure." He was subjected to a severe cross-examination, under which he was sometimes rather violent in his language and gesticulations, but generally very skillful in adhering to his theory of the crime, and in meeting the advances of the questioning counsel. The purpose of the prosecution was to show that his "conception," as he called it, followed closely upon his final disappointment in his quest for office, and was accompanied by indications of a desire for revenge; also that a desire for notoriety entered into his motives. The testimony of the accused was concluded

on the 2d of December, and was followed by evidence intended to show the political situation prior to July 2d, which was assumed to have been an exciting cause upon the mind of the prisoner to impel him to his act of that date.

The fourth week of the trial opened on the 5th of December, with the introduction of expert testimony on the part of the defense to prove insanity. The following hypothetical question, based on the facts which the defense assumed as having been developed by the previous testimony, was propounded to the witnesses by Mr. Scoville:

Assuming it to be a fact that there was a strong hereditary taint of insanity in the blood of the prisoner at the bar; also, that at about the age of thirty-five years his own mind was so much deranged that he was a fit subject to be sent to an insane asylum; also, that at different times after that date during the next succeeding five years he manifested such decided symptoms of insanity, without simulation, that many different persons conversing with him, and observing his conduct, believed him to be insane; also, that in or about the month of June, 1881, at or about the expiration of said term of five years, he became demented by the idea that he was inspired of God to remove by death the President of the United States; also, that he acted on what he believed to be such inspiration, and on what he believed to be in accordance with the divine will in the preparation for and in the accomplishment of such a purpose; also, that he committed the act of shooting the President under what he believed to be a divine command, which he was not at liberty to disobey, and which belief made out a conviction which controlled his conscience and overpowered his will as to that act, so that he could not resist the mental pressure upon him; also, that immediately after the shooting he appeared calm and as if relieved by the performance of a great duty; also, that there was no other adequate motive for the act than the conviction that he was executing the divine will for the good of his country—assuming all of these propositions to be true, state whether, in your opinion, the prisoner was sane or insane at the time of shooting President Garfield?

The first of the expert witnesses, Dr. James G. Kiernan, of Chicago, replied to this question, that, assuming these propositions to be true, he had no doubt of the prisoner's insanity. On cross-examination the witness expressed a belief in the existence of moral insanity, and stated the opinion that about one person in five in the community was more or less insane. Dr. Charles H. Nichols, of the Bloomingdale Asylum, New York, and Dr. Charles F. Folsom, of Boston, also testified that, assuming the statements in the hypothetical question to be true, the person described would, in their opinion, be insane. Dr. Samuel Worcester, of Salem, Massachusetts, insisting on an explanation of the question, was set aside as a witness for the defense. Dr. W. W. Golding, of Washington; Dr. James H. McBride, of Milwaukee; and Dr. Walter Channing, of Brookline, Massachusetts, also testified that, assuming the propositions of the question to be all true, they should regard the prisoner as insane. Dr. Theodore W. Fisher, of Boston, replied, "I should dislike very much to be confined to that statement of facts, but if I am obliged to

answer that question I should say he was insane." This concluded the medical testimony for the defense, and was followed by the reading of passages from a book written by the prisoner and entitled "Truth," and by the evidence of two or three public men who had been acquainted with the political doings of the accused. The prisoner himself petulantly criticised the theory and conduct of his counsel, and desired to have President Arthur, General Grant, ex-Senator Conkling, and other prominent public men summoned, as well as the editors of several leading newspapers. At the opening of the court on December 7th, he made the following statement:

May it please your Honor, the American people do not desire that this case shall be tried again, and I do not desire it. I say, with the utmost respect to this court and jury and my counsel, Mr. Scoville, that I am not satisfied with the political situation as developed in this case. That is the gist of the alleged offense. The President of the United States would never have been shot if it had not been for the political situation as it existed last May and June, and I say I have a right, as a matter of law, appearing as my own counsel, to ask your Honor that General Grant, Senators Conkling and Platt, and President Arthur and those kind of men, who were so down upon Garfield that they would not speak to him on the street, and would not go to the White House—I have a right to show that—I have a right to show my personal relations to those gentlemen; that I was on friendly terms with them; that I was cordially received, well dressed, and well fed at the Fifth Avenue Hotel by the National Committee. I want to show my supposed personal relations to those men. I do not want to take exception to your Honor's ruling, but I shall be obliged to do so. I have no doubt that the court in banc will give me a new trial.

The same day the rebutting testimony of the prosecution was begun, with the understanding that Dr. Spitzka, of New York, who had been summoned for the defense as an expert and had not yet appeared, might be examined at a later stage of the proceedings. Three days were occupied with evidence in rebuttal of that which was intended to show insanity in the Guiteau family, and in support of the theory that the prisoner was simply depraved and wicked, having been addicted to cheating, hypocrisy, and vice, and possessed with an inordinate vanity and desire for notoriety.

On the opening of the fifth week, December 12th, Dr. Spitzka appeared and was examined for the defense. He testified that he had made a personal examination of the prisoner, and believed him to be insane, "a moral imbecile, or rather a moral monstrosity." He was subjected to a severe cross-examination, intended to discredit his authority as an expert. On the 13th the prosecution began the introduction of expert testimony in rebuttal of that of the defense. The first witness of this class was Dr. Fordyce Barker, of New York, who testified that there was no such thing as hereditary insanity, though there might be a transmitted liability to become insane, and that in his opinion what was termed moral insanity was nothing but wickedness. The general purport of his testimony was that in Guiteau's case

there was no indication of the kind of delusion or irresistible impulse which could denote genuine insanity. He was followed by several lay witnesses, who testified to various transactions and experiences showing the depraved character of the accused. Dr. Noble, of the Washington jail, testified to the prisoner's conduct in jail, and believed him to be perfectly sane. General Reynolds, of Chicago, gave an account of an interview with the prisoner on the 14th of July, at which the latter expressed his astonishment that his act was denounced by prominent "stalwart" Republicans from whom he had expected protection. An attempt was made to show that the idea of inspiration originated after the prisoner found that there was no hope that he would be shielded by the faction who, in his view, had benefited by his act. Among the witnesses was a Mrs. Dunmire, who had been married to the defendant, and had obtained a divorce in 1874, on the ground of adultery. She had no reason to believe him insane. The expert testimony as to what constituted insanity was then resumed, the judge ruling, in response to an objection by the defense, that there was no reason, while one witness was testifying, for excluding the others from the court-room. Dr. Francis D. Loring, of Washington, and Dr. Allan McLane Hamilton, of New York, were examined on the 16th of December. The proceedings were interrupted from that date until the 21st on account of the death of the wife of a juror, who was permitted to go home for three days under an injunction to himself and his associates to hold no communication with other persons in regard to the trial. In this interval a cast of the prisoner's head was made by Mr. Theodore A. Mills, assisted by his father, Clark Mills, which it was the intention of the defense to introduce as evidence. The measurement of the head, according to a statement of Mr. Mills, was $23\frac{1}{2}$ inches in circumference, "self-esteem $6\frac{1}{2}$, firmness $6\frac{1}{2}$." The development of the left side was said to be normal, while the right was almost flat.

Dr. Hamilton's testimony was continued on the 21st of December; and Dr. Worcester, who had been originally summoned for the defense, was called by the prosecution. The facts assumed by that side, as established by evidence, were summed up in the following hypothetical question addressed to the witness:

First hypothesis: Assume a man forty years of age, in good health, who has always enjoyed good health, and who had never been seriously ill during the whole of his life, but that for some time previous to his birth his mother was an invalid; that one paternal uncle was an inmate of an insane asylum and died there, the alleged cause of the insanity being disappointed affection and mortification after fighting a sham duel; that another uncle was of dissipated and dissolute habits, and two first-cousins were of unsound mind; that he was brought up under the care of his father, who was a man of earnest religious belief, and who enjoyed a high character for honesty, integrity, uprightness, candor, and excellent business qualifications, and who was, from time to time, for many

years, elected to public positions of trust and responsibility, and who was, at the time of his death and for twelve years preceding, the cashier and virtually the business manager of a national bank. Suppose a son at the age of nineteen years, while pursuing studies at a school preparatory to entering a State university, abandoning his studies at the solicitation of his father, and entering into and becoming a member of the Oneida Community; suppose him to continue a member of that Community, conforming himself to the regulations and practices of the community for a period of five years, at one time leaving the Community for a period of some months to visit New York and other places, and then voluntarily returning to the Community and remaining the additional period of one year, at the end of which time, becoming dissatisfied with the labor there assigned him, he finally withdrew from the Community by the advice and with the pecuniary aid of a brother-in-law. Assume that after reflection on the subject in the Community he went to New York city, contemplating the establishment of a daily journal to be called "The Theocrat," and to be devoted to the dissemination of the peculiar religious belief of that Community, but abandoned the project without commencing its publication, for the want of pecuniary assistance and encouragement. Assume that he studied law, was admitted to the bar, and practiced his profession in Chicago and New York, was married, and divorced by his own procurement; that growing interested in religious matters he devoted himself to the preparation of lectures upon theological subjects, which he delivered in various parts of the country; that during the period of time when he was thus engaged he visited the home of a sister; that while there his sister said he raised an axe as though he would strike her, which he denied, and that the family physician summoned by her, after an examination in which he could find neither illusion, hallucination, delusions, nor disturbance of the intellectual or perceptive force, said he was insane "because of exaltation of the emotions and explosions of emotional feeling, also excessive egotism," and that he was the subject of an intense pseudo-religious feeling, and advised that he be taken to an insane asylum, which advice was not followed, and he was not then or at any subsequent time confined in a lunatic asylum, and that this statement was without any evidence except that of the sister and the physician here stated. Assume that after this he again traveled about the country, delivering his lectures and selling printed copies of the same, but that the views contained in these lectures not meeting the concurrence of his audience and popular favor, he did not derive pecuniary success and abandoned that enterprise. Assume that during a presidential political campaign he associated himself with the National Republican Committee and prepared a speech which was delivered but once, the reason assigned by him being that he was not sufficiently prominent to attract the attention that the members of the National Committee thought necessary in that campaign. Assume that at the close of the campaign he asked General Garfield by letter for the position of Minister to Austria. Assume that, after the inauguration of President Garfield, this man came to the city of Washington, D. C., and again made application for the Austrian mission, but learning that another person had been appointed to this place withdrew his application for it and applied for the position of Consul to Paris, for which place he pressed his application with great persistence, but not more than is usual with many persons asking for similar positions; that he earnestly and persistently followed up his application for this place by verbal and written requests, having no special claims for the position except his own idea of the value of his services to the party in the presidential campaign, and having no recommendation signed by any prominent politician for the place, his only recommendation being that of one Charles H. Reed, of Chicago, who had signed his application for that office. Assume that he

was told by Secretary Blaine, some time about the middle of May, in decided terms never to speak to him again about the Paris consulship as long as he lived; that persisting in his application he said to Mr. Blaine, "I will see the President, and ask him to remove Mr. Walker," the then incumbent, and that he understood Mr. Blaine to reply, "Well, if Sewell will indorse your application I have no objection to you having the place"; and that he inferred from this answer that if President Garfield would remove Mr. Walker, Mr. Blaine would not object to giving him the position; that he then applied to President Garfield to give him the Paris consulship, and made appeals to prominent politicians in Washington to aid him in this enterprise, and believed that they intended themselves to help him to forward his application; that he finally thought he would have the matter about the Paris consulship settled one way or the other, and addressed a note to the President in which he said, among other things, "Can I have the Paris consulship?" that he was informed, as he had been before repeatedly, that "the President could not see him to-day." Assume that four days after his alleged conception of the idea of removing the President he wrote to the President; that he dwelt upon this subject for two weeks, and at the end of this time, on or about June 6, 1881, he inquired of a dealer in guns and pistols for the largest caliber, strongest force, and most accurate pistol made; that two days thereafter he returned and purchased that pistol, having in the mean time borrowed money to pay for it; that after purchasing the pistol he inquired as to where he might practice with it; was informed that he could practice with it outside the city limits, and went outside the limits on three occasions, firing ten shots each time and hit the mark; that he followed the President from time to time for the purpose of shooting him—once to a church, which he examined for the purpose of shooting the President through a window, once to a depot, but the sight of a sick wife clinging to the President's arm prevented him from shooting him then, and once followed him to the house of a friend, and while the President was in the house concealed himself in an alley where he examined his pistol, intending to shoot him when he came out; but when he did come out he was accompanied by his friend, and they walked arm in arm closely together, so that he could not shoot him then; that finally, on the 2d day of July, 1881, he arose in the morning, took his pistol and took a walk in the park, then took breakfast, went to a depot, where he was informed by the newspapers, and had ascertained, the President would be at about the hour of nine o'clock in the morning, and that going there before this hour he waited for the President, and before his arrival left a bundle of papers at the news-stand addressed to Byron Andrews and his co-correspondents of newspapers; that he went into a water-closet, took out his pistol and examined it; that he went outside the depot, had his boots blacked and inquired for a hackman whose services he had engaged two weeks previous, but, he not being there, he engaged another hackman, agreeing with him for a stipulated price, conditioned that he should drive rapidly in the direction of the Congressional Cemetery, which was near the jail; that he saw the President arrive at the depot in a carriage with a friend, which he recognized as the carriage of the friend and not the carriage of the President; that he saw him in earnest conversation with his friends and waited until the President alighted from the carriage and walked into the depot a few feet; then, approaching the President from behind in a manner which did not attract the President's attention, when within a few feet of the President aimed the pistol at the hollow of his back and fired upon him twice, intending to kill him, and inflicting a mortal wound. Assume that after the shooting he made an effort to reach the carriage he had previously engaged, with a view to get to the jail as rapidly as possible, and thereby avoid the appre-

hended fury of the populace; that he was intercepted by an officer while endeavoring to reach his carriage; that he had written a letter to General Sherman, which was in his hand when intercepted by the officer, and which, he said, he was anxious to reach the general at once, and which was found to contain a demand for troops to protect him from mob violence, which he greatly feared. Assume that some time in the month of June, 1881, he wrote a letter in which he uses this language: "I have just shot the President; his death was a political necessity, because he proved a traitor to the men who made him, and thereby imperiled the life of the republic"; that in another letter, dated June 20, 1881, he used the following language: "The President's nomination was an act of God, his election was an act of God, his removal is an act of God"; that in a document addressed "To the American People," and dated as early as June 16, 1881, he used this language: "I conceived the idea of removing the President four weeks ago. I conceived the idea myself and kept it to myself"; that in the same document he says, "In the President's madness he has wrecked the once grand old Republican party, and for this he dies." And again: "This is not murder; it is a political necessity." Assume that he now claims that on several occasions during his life he has claimed to be inspired—once in connection with his entering the Oneida Community; once preceding his attempt to establish "The Theocrat"; once in connection with the writing of his lectures and his book, "The Truth," and that subsequent to the attempt to procure office, and some time after the shooting of the President, while in confinement in jail and awaiting trial, he said that he was inspired by the Deity to do that act, and said that the idea came to him one night about the 18th of May, which was about five days after the interview with Secretary Blaine about the Paris consulship, in which he was told by Secretary Blaine never to speak to him about the Paris consulship again, and after again visiting the White House and being refused admission, that he struggled against the idea, but that he finally worked himself up to it and nerved himself to do the shooting. Assume that for years previous to the shooting he procured a precarious living, often leaving his board-bills unpaid, borrowing money and going from place to place on the railroads, evading, when he could, the payment of the usual railroad fare; that on two or three occasions he was arrested for not paying his board-bills, and that he was once arrested and placed in the Tombs in New York city, and was once confined in jail in the city of Chicago for retaining money collected by him which did not belong to him. Assume that under oath, as a witness in his own behalf on trial for murder, he said he felt remorse so far as his personal feelings were concerned, and regretted the necessity for the act, but said he claimed that his duty to the Lord and to the American people overcame his personal feelings and personal regrets as to the act.

Second hypothesis: Suppose that in addition to the foregoing it is shown that this man went from place to place leaving unpaid board-bills behind him; that he borrowed money on false representations, using the names of prominent men as references without their knowledge or consent to secure the money; that he abandoned his practice of the profession of law, as he said it did not pay, and went to lecturing on theological subjects in imitation of prominent evangelists who, he said, had made money; that while he was professing religion and a church-member he was guilty of deception and lasciviousness; that in the character of a Christian gentleman he traveled through the country borrowing money and contracting indebtedness for his personal support, which he seldom if ever paid, though profuse in promises, evasions, and misrepresentations; that he published a book called "Truth," a large part of which was stolen from a book published many years before, called "The Berean"; that he represented and sold this book

"Truth" as his own literary production and ideas; that, failing in this, he returned to the practice of law and collected money for clients, which he retained; that he associated himself with the Young Men's Christian Association, had his letters addressed in their care, and used his relations with them as a passport to secure confidence, which he grossly abused; that he fraudulently obtained money by burnishing an oride watch and passing it off for gold, and boasted of it; that he declared that he would secure notoriety by good or evil, even if he had to kill some prominent man and imitate Wilkes Booth; that as far back as 1872 he took part in the Greeley campaign, declaring that he expected by so doing to secure the Chilian mission; that in order to procure a divorce from his wife, who had labored for him and sent money to him for his support, although he was at the time a lawyer and officer of the court, he yet deliberately, in accordance with his own statement, committed adultery with a prostitute, and appeared as a witness against himself in the divorce proceedings by which a decree of divorce was granted against him; that during his married life, while a member of the church and professing religion and engaging in the public exercises of the church with which he was connected, he got his wife to borrow money from the pastor, and afterward was accused of immoral conduct and vicious and dishonest practices, and in addition to having a loathsome disease he admitted the truth of the accusation; that he went again into politics, because neither the law nor theology would pay; that he used each and all the schemes he undertook, which have been presented as evidences of his insanity, for the purpose of dishonestly obtaining money; that during the political campaign of 1880 he wrote a speech which was delivered but once; that on this speech and his so-called services in the campaign he claimed and asked for an important foreign appointment, and for that purpose came to Washington; that immediately before coming to Washington he was getting a precarious subsistence in New York by soliciting life insurance; that in order to get to Washington he borrowed ten dollars, and arrived in Washington without funds; that he stopped at the Ebbett House one day, and left without paying his bill; that he went from one boarding-house to another in Washington, leaving the board-bills unpaid in each, and falsely representing that he was expecting money and would soon pay; that he borrowed fifteen dollars from a friend, stating that he wanted money to pay a board-bill, but really used it to purchase a pistol with which to shoot the President of the United States; that he boarded at a respectable house in the city of Washington for more than five weeks, leaving it only two days before the shooting, and only then because the landlady demanded payment for board, which he promised to pay in a few days, but which was never paid; that during this time he was on friendly relations with his fellow-boarders, conversing with them daily at the table upon religious and general topics, attending church, reporting and discussing sermons with the pastor, as well as the revision of the New Testament, and the situation as represented by the senatorial contest at Albany, and exhibiting nothing unusual in his manners, conduct, or conversation; that while stopping at this house he followed the President on at least two occasions for the purpose of shooting him, once watching him from Lafayette Park, but seeing him ride out with several friends desisted from shooting him; that once he followed him to the depot, but seeing a sick wife leaning on his arm refrained from shooting on that occasion, and that during all this time he never mentioned the subject of inspiration, or that he had any extraordinary relation with the Deity, or had any divine commission to perform; that he went to the Riggs House the day before the shooting, and left that board-bill unpaid; that, failing to secure the offices he sought, and disappointed in the expectations which he had frequently said he confidently entertained, he

followed the President from place to place, seeking the opportunity to shoot him; and finally, learning that the President was to go to Long Branch on a certain day, he went to the railway-station to waylay him, and there, stealthily approaching him from behind, treacherously murdered him by shooting him in the back; that, arrested and charged with this crime, he justified it as a patriotic act and claimed that it was a political necessity, and that the President was guilty of the blackest ingratitude by going back on the men who made him; that by removing the President he took but the life of one man, which cemented the Republican party and prevented another war which might have cost thousands of lives, as our last war did, and that the prominent men connected with the Republican party whom he supposed would be benefited by his crime would protect him from the consequences of his act; that when he learned that these men had expressed their abhorrence of his crime he appeared to be "struck dumb" and in "great mental agony," and after collecting himself he repeatedly used the words, "Most astounding!" and exclaimed: "What does it mean? I would have staked my life that they would defend me," and again repeated the words "Most astounding," and that shortly thereafter he, for the first time, used the words or expressed the idea of "inspiration" in referring to his crime; and that only since that time has he claimed "inspiration" as a defense for the murder. Assuming all these propositions to be true, I will ask you to state whether in your opinion the person was sane or insane at the time of shooting President Garfield?

The reply of the witness was that, in his opinion, the prisoner was sane. When asked on cross-examination what had changed his opinion as to the sanity or insanity of the prisoner, Dr. Worcester replied: "Mainly his own testimony, and my interview with him in the jail, supported by the evidence which I heard." On the following day, Dr. Theodore Damon, of Auburn, New York, was examined, and, in response to the hypothetical question and other inquiries, expressed the opinion that the prisoner was sane. On the 23d Mr. Charles H. Reed, of Chicago, joined the counsel for the defense, in spite of some criticism on the part of the prosecution, Judge Cox stating that he saw no impropriety in his doing so, notwithstanding the fact that he had been a witness in the case. The same day two more expert witnesses—Dr. S. H. Talcott, of Middletown, New York, and Dr. Henry P. Stearns, of Hartford, Connecticut—were examined, and confirmed the view that the prisoner was sane. The same line of evidence was continued on the 24th, by Dr. Jamin Strong, of Cleveland, Ohio; Dr. Abram M. Shaw, of Middletown, Connecticut; and Dr. Orpheus Evarts, of College Hill, Ohio. An adjournment was taken to December 27th, and on that day Dr. A. E. Macdonald, of New York, was examined. His opinion was that the prisoner was sane, and had been playing a part in support of the theory of insanity.

The prisoner had for some days indulged in constant interruptions, not only contradicting witnesses and criticising counsel, but denouncing both with opprobrious epithets. On the 28th of December, during the further examination of experts, Drs. Randolph Barksdale, of

Richmond, Virginia, and John H. Callender, of Nashville, Tennessee, having followed Dr. Macdonald, a motion was made by Mr. Porter that the prisoner be removed from the counsel-table, where he had thus far sat, and placed in the dock. After this had been argued with considerable warmth on both sides, the judge decided to remand the prisoner to the dock. It was hardly necessary to say, he remarked, that the conduct of the prisoner had been in persistent violation of order and decorum. In the beginning, the only methods which could be resorted to to suppress this disorder were such as must infringe the constitutional rights of the prisoner, and that was conclusive argument against them. Until Saturday the 25th no other method had been proposed. Then this proposition (which he had already had in mind) was submitted. It had hitherto been an impression shared by the court and counsel, that the prisoner's conduct and language in court would afford the best indication of his mental and moral character, and contribute largely to the enlightenment of court and jury on the question of his responsibility. It was therefore on the express desire of the District Attorney that the court had allowed such latitude of conduct, in order to furnish the experts an opportunity of diagnosing the prisoner's case. As it now appeared, the opinions of the experts had been largely founded on the exhibitions which had taken place on the trial, and, if they had contributed to enable those experts to reach their conclusions, it would be a complete vindication of the view of the District Attorney as to the proper course to be pursued. At this stage of the trial, however, this object seemed to have been accomplished. The trial was now approaching its close. The experts had had ample opportunity to make up their judgments and pronounce them before court and jury. It was incumbent on the court now to impose such restraint as the circumstances of the case admitted, and which would conduce to the orderly conduct of the case. The prisoner had a right to hear the testimony of witnesses. He could not be gagged or sent out of court. The proper place for a prisoner on trial for felony was the dock. He could only come within the bar to be arraigned and to receive sentence. If the court granted him the privilege of sitting beside his counsel, it was a privilege which could be withdrawn summarily. While the prisoner had the undoubted right to act as his own counsel or to appear by counsel, he could not exercise both rights simultaneously. Having accepted counsel, the prisoner had waived his right to appear as such in person. On the consideration of all the circumstances the court thought that the motion would have to be granted, and that the prisoner should be placed in the dock, but he did not mean that the prisoner should be exposed to any danger. He should have the fullest protection.

The change, however, did not put a stop to the interruptions of the prisoner. Dr. Walter

Kempster, of Winnebago, Wisconsin, was examined December 29th and 30th, and the last expert witness for the prosecution, Dr. John P. Gray, of Utica, New York, on the 30th and 31st. With regard to Dr. Gray's testimony, it was publicly stated that he was called to Washington by the Government to make a thorough examination of the prisoner's condition, with a view to ascertaining whether there was real ground for the plea of insanity. If such should be the case, the Government preferred to have it substantiated, regarding it better as a matter of policy to have the accused shown to be a lunatic, and sent to an asylum, than to have him convicted. Dr. Gray made a thorough examination of the man in jail, and attended the trial from the opening day, and, against his inclination, and the preference of the prosecuting authorities, was forced to the conclusion that he was entirely sane. His testimony related to his study of the case, the various phases of insanity, and the grounds of the conclusion at which he had arrived. His evidence, which was finished on the 3d of January, concluded the testimony for the prosecution. The defense introduced some unimportant evidence in surrebuttal, that of the sculptor in regard to the cast of the prisoner's head being, however, excluded by the court, and applied for the privilege of bringing in new evidence. After argument, this was denied by Judge Cox. He said:

That if any new fact were developed now that struck his mind as having an important bearing on the defense or as necessary to a fair presentation of the case, he would deem it his duty (notwithstanding that the testimony for the defense was formally closed) to allow that fact to be given in evidence. Part of the testimony now proposed to be introduced was offered in the character of surrebutting testimony and part not. The first was the opinion of a medical expert as to the condition of the prisoner's mind. He understood the law and practice to be simply this: The law presumed sanity, and the first affirmative testimony on that issue had to come from the defense. Expert testimony was a part of the evidence in chief for the defense on that issue, and all the expert testimony on which the defense relied must be offered in chief. Part of it could not be reserved to be offered by way of surrebutting testimony. After that testimony was in, it then became the duty and the right of the prosecution to offer evidence on the general question of insanity. The prosecution was not confined to the mere contradiction of witnesses for the defense, but it might go at length into the question and offer independent and affirmative proof on that question. A part of that testimony was that of medical experts. That testimony was not offered strictly in contradiction of the medical testimony for the defense, because one man's opinion was not a contradiction of another man's opinion, but it was offered as independent testimony. When this testimony was closed on the part of the Government, then the defense was restricted to a contradiction of facts that may have been testified to on the part of the prosecution. It was not allowed to contradict an expert on the part of the prosecution by the testimony of another expert who had a different opinion. If that was allowed, there would be no end to the trial. It would run on to rejoinder and surrejoinder, and to all the innumerable issues which the ingenuity of counsel might devise; so that the privilege of producing expert testimony was limited to the evidence in chief for the defense, and to the evidence

in chief for the prosecution. He therefore thought that the testimony of Dr. McFarland could not be received on the question of the prisoner's sanity.

The offer was also made to prove that immediately after the assassination the prisoner claimed to have acted under inspiration. When the prisoner was on the stand as a witness he testified that he had committed this act under what he called, indifferently, inspiration or pressure. To rebut that testimony the prosecution had put on the stand Mr. Reynolds, who testified that he had an interview with the prisoner two weeks after the assassination, and that in that interview the prisoner did not claim to have acted under inspiration, but assigned, exclusively, political motives. It was not the object of the Government to prove that he did not claim inspiration, but simply to ask the jury to infer that the prisoner never did claim this inspiration until several weeks after the assassination, and after he had discovered that these men, whom he supposed he was benefiting by his deed, had repudiated it and were denouncing him. The hypothetical case, put by the prosecution to the experts, assumed that no claim of having acted under inspiration was made by the prisoner until two weeks afterward and up to the time of this interview of Mr. Reynolds with him. It would be an answer to that to show that on the very day of the assassination the prisoner did claim inspiration. As rebutting testimony that evidence ought to be received. It struck him as strictly rebutting testimony. As to the other testimony offered, which was not in reply to anything on the part of the Government, the common-law practice was that the Government should summon all the witnesses whose names were indorsed on the indictment, and it was really incumbent on the Government, as a matter of fairness, to summon all the witnesses who had been present at the transaction and had seen it. The Government was not bound, however, to examine all the witnesses so summoned; but as soon as the case for the Government was closed those witnesses were at the disposal of the defense. The proper time for the defense to call upon them was when the rebutting testimony was in course of presentation. In this case the defense had occupied two weeks in the presentation of its rebutting testimony, and it was at that time that, strictly speaking, this evidence should have been offered, if offered at all.

The next question was, what consideration should influence the court in allowing additional evidence which might have been produced if known at the proper time. Such evidence ought not to be admitted if it was purely cumulative. For example, the mental condition of Luther W. Guiteau had been so thoroughly canvassed on both sides that anything more in addition to that seemed purely and exclusively cumulative. Besides, it was not a direct fact in issue, but a somewhat collateral issue. The proof of Luther W. Guiteau's insanity did not prove that of the prisoner. It did nothing more than merely tend to corroborate the direct testimony on that point. He did not think that it ought to be admitted. As to the proposition to offer witnesses who had seen the prisoner in a public park a few days before the assassination, and had gathered from his conduct the impression that he was out of his mind, such testimony was of a very vague and uncertain character, and he did not think it sufficiently definite to warrant him in opening the case again. The only thing that he felt any uncertainty about was in reference to the testimony of detective McElfresh, who conducted the prisoner to the jail immediately after the occurrence. He would like more definite information as to what McElfresh could prove.

The prisoner: I had a talk with McElfresh going in a carriage to the jail. He wanted to know why I did it. I said it was on account of the political situation. I said, "Are you a stalwart?" and he said "Yes." He said, "There are a great many people who feel just like you in regard to the Republican party." The point was, it was the political situation

which drove me on the President. The prosecution wanted to show that it was because I was a disappointed office-seeker. I was not a disappointed office-seeker, and I would not have taken the Paris consulship after the 1st of June. Under the circumstances, therefore, I have a right to show that, on the day of the shooting, I told McElfresh that the cause was the political situation, and that without the political situation the President would not have been removed—and he would not have been removed any way, if the Lord had not crowded me into it.

Judge Cox (getting a chance to finish his ruling) said that if he had an affidavit as to what McElfresh would testify to he might be able to decide more satisfactorily, but that at present it seemed to him too vague. He thought, however, that the testimony as to the claim of inspiration, made on the day of the assassination or on the day after, was admissible as rebutting testimony.

The evidence was completed on the 4th of January, and the prosecution, through Mr. Davidge, presented the following requests to the court for rulings on the law points involved:

1. The legal test of responsibility where insanity is set up as a defense for the alleged crime is whether the accused, at the time of committing the act alleged, knew the difference between right and wrong in respect of such act. Hence, in the present case, if the accused, at the time of committing the act charged, knew the difference between right and wrong in respect of such act—that is, if he knew what he was doing, and that what he was doing was contrary to the law of the land—he is responsible.

2. If the accused knew what he was doing, and that what he was doing was contrary to the law of the land, it constitutes no defense, even if it were true, that when he committed the act he really believed that he was thereby producing a public benefit, or carrying out an inspiration of divine origin or approval. Such belief would not afford any excuse, nor would such excuse be afforded by the fact that, in the commission of the act, he was impelled by a depraved moral sense, whether innate or acquired, or by evil passion or indifference to moral obligation.

3. Insanity would, however, constitute a defense if, by reason of disease, the accused, at the time of committing the act charged, did not know what he was doing, or, if he did know it, that what he was doing was contrary to law.

4. The only evidence in the present case tending to show an irresistible impulse to commit the homicide is the claim of the accused that his free agency was destroyed by his alleged conviction that the death of the President was required for the good of the American people, and was divinely inspired; but such conviction, even if it really existed, could not afford any excuse, when the party knew what he was doing, and that it was contrary to law. No mere delusion or error of judgment, not even a fixed belief that what is prohibited by the law is commanded or approved by divine authority, can exempt the accused from responsibility for breaking the law. To have such effect, the commission of the act charged must have been the result of an insane delusion, which was the product of disease, and of such force as to deprive the accused of the degree of reason necessary to distinguish between right and wrong in respect of the act, so that at the time of committing the act he either did not know what he was doing, or if he did, that the act was wrong or contrary to the law of the land.

The court adjourned until the 7th, to allow the defense time to prepare their requests, which were as follows:

1. The legal test of responsibility, when insanity is set up as a defense for alleged crime, is not merely whether the accused knew at the time what he was doing, and that the act was contrary to law, for an ir-

responsible insane person may know those things, but was the act done as the result of an insane delusion, or was it committed under an influence or power which the accused could not resist by reason of his unsoundness of mind?

2. Although the accused may have known what he was doing, and that what he was doing was contrary to the law of the land, yet if, when he performed the act, he really believed that he was thereby producing a public benefit, and was actuated by an insane delusion that he was carrying out an inspiration of divine origin or approval, and would not have done the act but for such insane delusion, then the accused is not guilty of the crime charged against him, and the jury should find him "not guilty, by reason of insanity."

3. Insanity constitutes a defense if, by reason of it, the accused, at the time of committing the act charged, did not know what he was doing; or, if he did not know that what he was doing was contrary to law; or, if the act would not have been done by him but for reason of the insanity.

4. The only evidence in the present case tending to show an irresistible impulse to commit the homicide, or that the accused acted under the pressure of an insane delusion in doing the act, is found in the conduct and words of the accused as detailed in evidence. The question whether the free agency of the accused was destroyed by a conviction on his part that the death of the President was required for the good of the American people, and that he was divinely inspired to remove him by death, is one of fact to be determined by the jury from all the evidence in the case, and such evidence includes the acts as well as the words of the accused. But such conviction, if it really existed, could not afford any excuse when the party knew what he was doing, and that it was contrary to law, unless it was the product of an insane delusion, and he was impelled to do the act by such delusion. Such delusion may exist as to a divine requirement, or as to an inspiration from God. No mere delusion, unless it be the product of an unsound mind, nor error of judgment, nor even the fixed belief that what is prohibited by the law is commanded or approved by divine authority, can exempt the accused from responsibility for breaking the law, if at the time he knew what he was doing and that it was contrary to law, and he was not acting under an insane delusion. To have such effect, the committing of the act charged must have been the result of an insane delusion of such force as to deprive the accused of the degree of reason necessary to distinguish between right and wrong in respect of the act, as sane people generally judge of such conduct. The delusion must have been such that at the time of committing the act he either did not know what he was doing, or, if he did, he must have acted under a controlling conviction that the act was right. Although he may have known that the act was contrary to the law of the land, yet if he did it under the insane delusion that it was commanded to be done by God, such knowledge on his part would not make him liable to punishment.

5. Whether insanity exists or has existed at any time with the prisoner, and the degree of insanity, if any existed or has existed, are questions of fact to be determined entirely by the jury from the evidence.

6. If the jury find from the evidence that the prisoner was of unsound mind at the time of the doing of the act charged against him as criminal in this case, then it is also the duty of the jury to find whether said act was the result of such unsoundness of mind of the prisoner.

7. The punishments of the law are intended for rational persons, and no one but a rational person can commit the crime of murder.

8. Insanity may be interposed as a legal defense in any prosecution for an otherwise criminal act, and, if such defense be established by the evidence, it takes away the criminality, and the act ceases to be a crime in contemplation of law.

9. If the jury have a reasonable doubt as to the san-

ity of the accused at the time of committing the act charged against him as a crime, they should give him the benefit of that doubt, and should find him "not guilty, by reason of insanity."

10. The jury are the sole judges of the credibility of witnesses, and have a right to take into account, in weighing the evidence, any apparent feeling or interest manifested by witnesses on the stand, their manner of testifying, their compensation or want of compensation, and any other circumstances connected with their testimony which the jury may think would influence them.

11. If the jury believe, from the evidence, that the prosecution have willfully suppressed evidence of the mental condition of the accused during two weeks next following the shooting of President Garfield, which it was in their power to have produced on the trial, the jury have a right to take that fact into consideration, as raising a presumption that such evidence, if produced, would have been unfavorable for the prosecution.

12. If the jury shall believe, from the evidence, that the prisoner was of sound mind, or not so insane as to be irresponsible for the act, at the time of shooting at the President, on the 2d day of July, 1881, and that he then unlawfully and willfully, but without malice in fact, in the District of Columbia, shot at and thereby injured the President, of which shooting and injury the person so injured subsequently died in the State of New Jersey, and within the United States, then the prisoner is guilty of the crime of manslaughter, and the jury should so find.

13. The jury are instructed to find a separate verdict upon each count in the indictment, and, inasmuch as it is charged in the first, second, fourth, fifth, seventh, and eighth counts of the indictment in this case, that the death of the President took place in the county of Washington, in the said District of Columbia, and there is no evidence of such fact, therefore the jury are directed to find the accused not guilty upon each of said counts, separately.

14. Inasmuch as the evidence is uncontradicted in this case that the wound was inflicted upon the President by the accused, on the 2d day of July, A. D. 1881, in the county of Washington, in the District of Columbia, and that the President subsequently, and in the month of September, A. D. 1881, died of such wound in the State of New Jersey, the jury are instructed that, by reason of these facts, the accused is not guilty of the crime of murder charged in the indictment, and the verdict must be "not guilty," unless the jury shall find him guilty of manslaughter, as charged in the twelfth prayer of the defense.

Arguments to the court on these points were made by Messrs. Davidge, Corkhill, and Porter for the prosecution, and Reed and Scoville for the defense, accompanied by some sharp criticisms on each side with reference to the conduct of counsel on the other. The District Attorney took occasion in his argument to examine the question of jurisdiction. On the 10th of January, after the close of the arguments, Judge Cox proceeded to state his views on the prayers submitted on both sides—first giving his attention to the question of jurisdiction. He said that at an early stage in the case he had expressed a preference to hear that question discussed in a preliminary form by way of demurrer, or motion, or plea, because a determination of it adversely to the jurisdiction would have spared all the labor and trouble of the trial. Counsel, however, had the privilege of making the question at any stage of the case. The jurisdiction of the court had been publicly discussed and seriously

challenged, and he had felt it incumbent on him not to ignore a question so vital to the rights of the accused. He had deemed it his duty, therefore, to investigate the question thoroughly. After a very exhaustive review of the English and American authorities, he expressed his conviction that the English authority was decidedly in favor of jurisdiction where the blow had taken place, and that in this country there was a strong array of authority in the same direction. He felt at liberty to adopt and announce the doctrine (which conformed to common sense), that the jurisdiction was complete where the fatal wound had been inflicted, and that, therefore, the place of death was immaterial. Consequently, it would be improper to grant the thirteenth instruction prayed for by the defense, because the offense charged might be tried and conviction might follow under those counts of the indictment which averred the death to have occurred in the District of Columbia. For the same reason the fourteenth instruction relating to jurisdiction had to be denied. When it became his duty to charge the jury in the case, it would be his effort to expand and illustrate so much of those instructions as he considered correct; but, for the present, he merely desired to express his opinion sufficiently to guide the counsel in their arguments to the jury. He then proceeded to consider the first and second prayers of the prosecution in connection with the third, fifth, sixth, and eighth prayers of the defense.

The first instruction asked for by the prosecution—namely, that “the legal test of responsibility where insanity is set up as defense for alleged crime, is whether the accused at the time of committing the act charged knew the difference between right and wrong in respect of such act”—he regarded as correct. He reviewed at great length the questions involved in the McNaughton case, and quoted from testimony given by Lord Justice Fitz James Stephen before a parliamentary committee which had before it, in 1874, a bill to define the law of insanity. He referred to this, he said, simply to show that the answers of the judges in the McNaughton case had not since been regarded as clearly establishing the proposition that a mere capacity to know the law of the land subjected persons to criminal responsibility. Since the McNaughton case a number of homicide cases had been tried at *nisi prius* in England, and he had not been able to find one in which a knowledge of the law of the land had been laid down as a test. In the United States there were numerous cases that applied to a knowledge of right and wrong in regard to the particular case, but the instructions had been in the most vague and general terms. He would therefore state his own views, which he did as follows:

To a sane man an act, whether morally wrong or not, is wrong if it is in violation of the law of the land. It can not be right for him, although he may think

that independently of the law it would be. It can not be right for him, although he may think it is right notwithstanding the law, and that he may rightfully commit it in violation of the law. But, while a sane man is responsible for opinions contrary to law if carried out in practice, an insane man is not held to the same responsibility. He may know the law of the land, but in his delusions he may insanely believe that it is not the law for him, but that he is acting under a higher authority which supersedes it. If, therefore, I am to rule upon this proposition as presented, I grant it only with a qualification, and I give as a substitute therefor my own (marked No. 1), as follows:

No. 1. The legal test of responsibility where insanity is set up as a defense for alleged crime is whether the accused at the time of committing the act charged knew the difference between right and wrong in respect of such act. Hence, in the present case, if the jury find that the accused committed the act charged in the indictment, and at the time of the commission of his crime knew what he was doing, and that what he was doing was contrary to the law of the land, he is responsible; unless, in consequence of insane mental delusions or other form of mental disorder, he was laboring under such defect of reason as to be incapable of understanding the obligation of the law of the land and the duty and necessity of obedience to it, and of understanding that his act was wrong because it was in violation of the law.

I have prepared instruction No. 2, which embodies all that I think is correct in the remaining instructions asked for by the Government, and in the first four instructions asked for by the defense. It is as follows:

No. 2. If the jury find that the defendant committed the act charged, and at the time thereof knew what he was doing, and that what he was doing was contrary to the law of the land, it constitutes no excuse, even if it is true, that when he committed the act he really believed that he was producing a great public benefit, and that the death of the President was required for the good of the American people; nor would such excuse be afforded by the fact that in the commission of the act he was controlled by a depraved moral sense, whether innate or acquired, or by evil passions or indifference to moral obligations. And even if the jury find that the defendant, as a result of his own reasoning and reflection, arrived at the determination to kill the President, and as a further result of his own reasoning and reflection believed that his said purpose was approved, or suggested, or inspired by the Deity, such belief would afford no excuse. But it would be different, and he would not be responsible criminally, if the act was done under the influence and as the product of an insane mental delusion that the Deity had commanded him to do the act, which had taken possession of his mind not as a result of his own reflections, but independently of his own will and reason, and with such force as to deprive him of the degree of reason necessary to distinguish between right and wrong as to the particular act. In such case, even if he knew that the act was a violation of the law of the land, he would not be responsible if his reason was so perverted by the insanity that he was incapable of understanding the obligation of the law of the land, and that the act was wrong under the obligation of that law and wrong in itself.

Judge Cox continued as follows:

In this connection I add the words “wrong in itself,” because I can conceive a case in which one might believe, insanely, that the law of the land provided no punishment for murder, and yet the person might be perfectly aware of the moral enormity of the crime. I would be unwilling to pronounce such a person irresponsible.

I have omitted from this instruction one important feature of that asked for on the part of the defense.

It is expressed in the first sentence of the first prayer, in these words: "Or was it committed under an influence or power which the accused could not resist by reason of his unsoundness of mind?" It can not be denied that some of the most respectable courts in this country have recognized it as possible that a man may be driven against his own will to the commission of an act which he knows to be wrong by an insane, irrepressible impulse within him, overriding his own will and conscience; and those courts maintain that, as under such circumstances the will to do wrong (which is the very essence of criminality) is wanting, he ought not to be held criminally responsible. They, therefore, hold that the test of the knowledge of right or wrong ought to be qualified by the further condition whether the person had the power to choose between doing or not doing the act. The question is a dangerous one alike for courts and juries to handle, and I do not intend to express an opinion upon it, further than the facts of the case require. Those facts seem to relieve me from the necessity and the responsibility of discussing it generally. If we struck out of this case all the declarations and testimony of the defendant himself, we have no light whatever on this subject. There are circumstances, such as his actions and conduct, which, his counsel may argue, of themselves indicated some aberration, and are corroborative of and explained by his testimony. But of themselves they would have afforded no indication of the particular motive or special form of delusion that actuated him. Of this we have no indications except in the declarations, oral or written, of the defendant himself. But he has never claimed that he was irresistibly impelled to do an act which he knew to be wrong. On the contrary, he always claimed that it was right. He justified it at the time, and afterward, in his papers, as a political necessity and an act of patriotism, and whether he claimed inspiration early or late, he has claimed that the act was inspired, and therefore right. He has used the words "pressure" and "inspiration" interchangeably, as it were, to express the idea. This has no meaning unless it be that he was under an insane delusion that the Deity had inspired and commanded the act. He has certainly not separated the idea of pressure and impulse from the conviction of inspiration and right and duty.

The defendant has asserted no form of insanity which does not involve the conviction that the act was right, and I feel sure that I am not transcending the privilege of the court when I say that there is no evidence in the case outside of his own declaration tending to prove irresistible impulse as a thing by itself and separate from this alleged delusion. Therefore, the case does not seem to me to present or call for any ruling on the hypothesis of an irresistible impulse to do what the accused knew to be wrong and what was against his will. Whether there is such a thing as irresistible insane impulse to commit crime, and whether it has existed in any particular case, are questions of fact and not of law. In this case, I think, there is no testimony showing that it can exist by itself as an independent form of insanity, but rather the contrary. There is, however, testimony tending to show that such impulses result from and are associated with insane delusions, and especially with an insane delusion as that the party has received a command from the Deity to do an act. But if such an insane delusion exists, so as to destroy the perceptions of right and wrong as to the act (which is substantially the defendant's claim), this of itself is irresponsible insanity, and there is no need to consider the subject of impulses resulting from the delusion. On the other hand, if there were no insanity, but a mere fanatical opinion or belief, the only impulse that could have actuated the defendant must have been a sane one—such a one as, in the most favorable view of it, a mistaken sense of duty—which impulse the law requires him to resist and control.

In connection with the medical testimony tending

to show that these impulses are always or generally associated with some insane delusion, if there are facts tending directly to show the existence or absence of an irresistible impulse, they may perhaps furnish some evidence of the existence or absence of insane delusion. But I think, in view of the undisputed features of this case, it would only confuse and perhaps mislead the jury to give them any instruction directly upon the subject of irresistible impulse, and that this particular case does not call for any qualification for the general rule adopted, as I have mentioned, as the test of responsibility.

The twelfth instruction is drawn with reference to section 5342 of the Revised Statutes. I do not understand that statute to create any new species of manslaughter. It uses the common-law definitions of both murder and manslaughter, and (perhaps in view of the doubts I have already spoken of) applies them to two cases where the mortal wound was inflicted in one jurisdiction and the death occurred in another. The terms "malice" and "maliciously," used in the statute, would have no meaning except by reference to the common law. We know that the term "malice," in the definition of murder, does not require that proof shall be given of any special hatred or ill-will to the deceased, but that the deliberate intent to kill, from whatever motive, constitutes all the malice that the law requires to be shown, and that the term "without malice" in the definition of manslaughter means simply without premeditated intent, as where the killing occurs in the heat of passion or sudden quarrel. All this I will explain to the jury when it becomes necessary to charge them. But the instruction—in its use of the phrase "without malice in fact"—might convey the idea to the jury that if the killing was done from the motives declared by the prisoner, and if he had, as he says, no personal ill-will toward the President, it was not murder. It is objectionable on this ground, and every object that could be properly sought under this head will be attained by the explanations which I have indicated to be made to the jury. It becomes important, in the first place, to settle the rules of evidence by which the jury is to be guided in weighing the proofs.

In reference to the question on whom rests the burden of proof where insanity is relied on as a defense, three different and conflicting views have been held by three different courts. According to one view it is incumbent on the accused to establish the fact of his insanity at the time of commission of the alleged crime by evidence so conclusive as to exclude all reasonable doubt of it. But this view derives so little support from authority that it may be passed over without comment as inadmissible. Another view is that the defense of insanity is an affirmative one, which the party asserting it must establish to the satisfaction of the jury by at least a preponderance of evidence. That is to say, the evidence in favor of it need not be so conclusive as to leave no room for reasonable doubt, but it must have more weight with the jury than the evidence against, so that they would feel justified in finding the fact as they would find any fact in a civil suit, in which all questions of fact are decided according to the weight of the evidence. Still another view is that the sanity of the accused is just as much a part of the case of the prosecution as the homicide itself, and just as much an element in the crime of murder, the only difference being that as the law presumes every one to be sane, it is not necessary for the Government to produce affirmative evidence of the sanity, but that if the jury have a reasonable doubt of the sanity they are just as much bound to acquit as if they entertained a reasonable doubt of the commission of the homicide by the accused. After a careful examination of the authorities, some of which are mere dicta, and others not well considered or even consistent statements of opinions, I am satisfied that the best reasons and most weighty of them sustain the views which I now proceed to state. I have examined all the authorities with great care over and over again.

The cases that are referred to in support of the second rule are somewhat more numerous than the others. Some of them, however, turn on the statutory definitions of the charge of murder. A great many of the cases are mere dicta, and some of them involve utter contradictions. Not one of them contains the least show of argument. With us there is no statutory definition of murder. We have the common-law definition of murder as occurring when a homicide is committed by a person of sound memory, discretion, etc. The opinions which support the last view are decidedly entitled to most confidence. They are reasoned out from first principles, and their reasonings have been unanswered, and are, in my judgment, unanswerable. In the case of Stone, tried in this court a few years ago, the instructions were as follows: "In a capital case the defense of insanity is required to be made out by most clear and convincing proof. In this case the jury must judge of the evidence offered to sustain the defense; and if, on consideration of all the evidence in connection with the assumption that what a man does is sanely done, the jury entertains a reasonable doubt as to whether the prisoner committed the homicide charged, or as to whether at the time of the commission he was in a sane state of mind, they must acquit him."

I shall, however, adopt the suggestion which is found in some of the later authorities—that is, not to instruct the jury to acquit if they feel a reasonable doubt about any one fact in the issue; but I shall instruct them as to the nature of the crime and as to all the elements composing it, including that of responsibility. I shall instruct them as to the presumption of innocence and sanity, and shall tell them finally that, on the whole evidence and on the consideration of both these presumptions, if they have a reasonable doubt of the guilt of the prisoner, the prisoner is entitled to an acquittal.

The tenth and eleventh instructions asked for on the part of the defense do not involve any serious question. The eleventh instruction asks me to say that, "if the jury believe from the evidence that the prosecution has willfully suppressed evidence of the mental condition of the prisoner during two weeks following the shooting of President Garfield which it was in their power to have produced in the trial, the jury have a right to take that fact into consideration as a presumption that such evidence, if it had been produced, would have been unfavorable to the prosecution."

Any instruction ought to be based on some evidence in the case, and if I were to grant the instruction in that form I would be assuming that there was some evidence in the case tending to show a willful suppression of evidence by the prosecution. I can not so assume. It is always, however, open to either side to argue that evidence which might have been produced and which has not been produced should be regarded as injurious to the party refusing to produce it. But I do not think the court ought to give a formal instruction in the shape of either the tenth or eleventh prayer. I have already given my views on the twelfth and remaining prayers.

At the conclusion of Judge Cox's decision the prisoner remarked, "I am satisfied with the law as laid down by your Honor."

The arguments before the jury were begun on the 12th of January. Mr. Davidge spent two days in summing up the evidence for the prosecution and discussing its bearing on the plea of insanity. He endeavored to show that the deed of the accused was deliberately planned and systematically carried out, having for its motives desire for revenge, love of notoriety, and hope of escape from consequences through miscalculated political influence. His career was treated as showing depravity and wickedness, unbridled

passion, inordinate vanity, and unregulated ambition, and not insanity. Mr. Davidge was followed by Mr. Reed, who occupied one session of the court in summing up the evidence for the defense. He took the ground that the accused had been shown to be a mental wreck and an irresponsible lunatic, whose conviction and punishment for crime would be a disgrace to American jurisprudence.

On the first day of the arguments before the jury the question was raised of allowing the prisoner to close the case in his own behalf, as he desired to do. His counsel seconded his wish, but the District Attorney objected. The matter was not settled at the time, but, after the delivery of Mr. Reed's address, the proposed speech of the prisoner was given to the press and published on the 16th of January. It was made up of a reiteration of his claims to patriotism, piety, and divine inspiration, and contained nothing new of a noteworthy character. He claimed, as he had repeatedly done in the course of the proceedings, that he had the sympathy of a large and increasing class of good citizens, that public opinion was growing in his favor, and that posterity would justify his deed, and condemn any action against him.

Mr. Scoville occupied nearly five days in addressing the jury, beginning on the 16th and concluding on the 20th. He went over the ground covered by the evidence, examined the law regarding legal responsibility, contended that the prisoner had long been an insane man, denounced the spirit and method of the prosecution, and attacked prominent politicians who were, he claimed, responsible for the state of affairs which wrought upon the disordered faculties of the accused and impelled him to the deed of July 2d. He closed with an appeal to the jury to save the country from the disgrace of executing an insane man in obedience to popular clamor, after an unfair trial, and for the purpose of screening from detestation men who were responsible for his deed.

At the close of Mr. Scoville's address, the District Attorney withdrew all objection to the prisoner speaking to the jury, as he did not "intend that any error should get into the record upon which there was any possibility that a new trial should be allowed." This explanation called forth an acrimonious protest from the defense, and Judge Cox granted the prisoner's request to address the jury, remarking that some of his brethren of the bench "had very serious doubts whether, in a capital case, the prisoner could be denied the right to address the jury." Accordingly, on the 21st of January, Guiteau read the speech which had already been published, with a brief preface referring to a decision that had just been made by the New York Court of Appeals, to the effect that the proof of insanity, beyond a reasonable doubt, rested with the prosecution.

On Monday, the 23d of January, Mr. Porter began the closing address in behalf of the Government, and occupied the greater part of

three days. It was devoted largely to portraying and denouncing with scathing invective the character of the accused as revealed by the evidence, and demolishing the defense of insanity. It described the prisoner as a monster of iniquity, animated by selfish motives and vengeful feelings, presuming at first on the protection of a political faction to be benefited by his deed, whose moral standard he assumed to be as low as his own, and resorting when this dependence failed to a pretense of divine inspiration and irresistible pressure. The address was frequently interrupted by the most bitter and violent interjections from the prisoner, and occasionally by heated objections from the counsel for the defense, who claimed that the speaker went beyond the evidence. The only check which the court found occasion to administer was to prevent a reference to expressions of public opinion, intended to counteract the prisoner's often reiterated assertion that the American people sympathized with him, and demanded his acquittal.

Immediately upon the close of Mr. Porter's address, at 3.15 p. m., on January 25, 1882, Judge Cox delivered his charge to the jury. After speaking of the rights which were guaranteed to accused persons, he proceeded:

Every accused person, he said, was presumed to be innocent until the accusation was proved. With what difficulty and trouble the law had been administered in the present case, the jurors had been daily witnesses. It was, however, a consolation to think that not one of those sacred guarantees of the Constitution had been violated in the person of the accused. At last the long chapter of proof was ended, the task of the advocate was done, and it now rested with the jury to determine the issue between public justice and the prisoner at the bar. No one could feel more keenly than himself the great responsibility of his duties, and he felt that he could only discharge them by close adherence to the law, as laid down by its highest authorities. Before proceeding further, he wished to notice an incident which had taken place pending the recent argument. The prisoner had frequently taken occasion to proclaim that public opinion, as evidenced by the press and correspondence, was in his favor. Those declarations could not have been prevented, except by the process of gagging the prisoner. Any suggestion that the jury could be influenced by such lawless clattering of the prisoner would have seemed to him absurd, and he should have felt that he was insulting the intelligence of the jury, if he had warned them not to regard it. Counsel for the prosecution had felt it necessary, however, in the final argument, to interpose a contradiction to such statements, and an exception had been taken on the part of the accused to the form in which that effort was made. For the sole purpose of purging the record of any objectionable matter, he should simply say that anything which had been said on either side in reference to public excitement or to newspaper opinion was not to be regarded by the jury.

The indictment charged the defendant with having murdered James A. Garfield, and it was the duty of the court to explain the nature of the crime charged. Murder was committed where a person of sound memory and discretion unlawfully killed a reasonable being in the peace of the United States with malice aforethought. It had to be proved, first, that the death was caused by the act of the accused, and, further, that it was caused with malice aforethought. That did not mean, however, that the Government had to

prove any ill-will or hatred on the part of the accused toward the deceased. Wherever a homicide was shown to have been committed without lawful authority and with deliberate intent, it was sufficiently proved to have been done with malice aforethought, and malice was not disproved by showing that the accused had no personal ill-will to the deceased, and that he killed him from other motives—as, for instance, robbery, or through mistaking him for another, or (as claimed in this case) to produce a public benefit. If it could be shown that the killing occurred in a heat of passion or under provocation, then it would appear that there was no premeditated attempt, and therefore no malice aforethought, and that would reduce the crime to manslaughter. It was hardly necessary, however, to say that there was nothing of that kind in the present case. The jury would have to say either that the defendant was guilty of murder or that he was innocent. In order to constitute the crime of murder, the assassin must have a reasonably sane mind—in technical terms, he must be “of sound mind, memory, and discretion.” An irresponsibly insane man could not commit murder. If he was laboring under a disease of the mental faculties to such an extent that he did not know what he was doing, or did not know it was wrong, then he was wanting in that sound mind, memory, and discretion that was a part of the definition of murder. In the next place, every defendant was presumed innocent until the accusation against him was established by proof. In the next place, notwithstanding this presumption of innocence, it was equally true that a defendant was presumed to be sane, and to have been so at the time the crime was committed—that is to say, that the Government was not bound to show affirmatively, as a part of its proofs, that the defendant was sane. As insanity was the exception, and as the majority of men are sane, the law presumed the latter condition of every man, until some reason was shown to believe to the contrary. The burden was, therefore, on the defendant, who set up insanity as an excuse for crime, to produce proofs in the first instance to show that that presumption was mistaken, so far as it related to the prisoner. Crime, therefore, involved three elements—the killing, malice, and a responsible mind in the murderer. After all the evidence was before the jury, if the jury, while bearing in mind both those presumptions—that is, that the defendant is innocent till he is proved guilty, and that he is sane till the contrary appears—still entertained what is called a reasonable doubt on any ground, or as to any of the essential elements of the crime, then the defendant was entitled to the benefit of that doubt and to an acquittal.

It was important to explain to the jury here in the best way that the court could what is a reasonable doubt. He could hardly venture to give an exact definition of the term, for he did not know of any successful attempt to do so. As to questions relating to human affairs, a knowledge of which is derived from testimony, it was impossible to have the same kind of certainty that is created by scientific demonstration. The only certainty that the jury could have was a moral certainty, depending on the confidence which the jury had in the integrity of witnesses, and in their capacity and opportunity to know the truth. If, for example, facts not improbable in themselves were attested by numerous witnesses, credible and uncontradicted, and who had every opportunity to know the truth, a reasonable or moral certainty would be inspired by that testimony. In such a case doubt would be unreasonable, or imaginary, or speculative. It ought not to be a doubt as to whether the party might not be innocent in the face of strong proofs of his guilt; but it must be a sincere doubt, whether he had been proved guilty. Even where the testimony was contradictory, and where so much more credit should be given to one side than the other, the same result might be produced. On the other hand, the opposing proofs might be so balanced that the jury

might justly doubt on which side, under all the circumstances, the truth lay, and in such case the accused party was entitled to the benefit of the doubt. All that a jury could be expected to do was to be reasonably and morally certain of the facts which they declared to be their verdict. In illustration of this point, Judge Cox quoted the charge of Chief-Justice Shaw, of Massachusetts, in the case of the Commonwealth against Webster.

With reference to the evidence in this case very little comment was required by the court, except upon one question—the others being hardly matters of dispute. That the defendant fired at, and shot, the deceased President was abundantly proved; that the wound was fatal had been testified to by the surgeons, who were competent to speak, and they were uncontradicted; that the homicide was committed with malice aforethought (if the defendant were capable of criminal intent or malice), could hardly be gainsaid. It was not necessary to prove that any special or express hatred or malice was entertained by the accused toward the deceased. It was sufficient to prove that the act was done by deliberate intent, as distinct from an act done under a certain impulse in the heat of blood and without previous malice. Evidence had been exhibited to the jury tending to show that the defendant admitted in his own handwriting that he had conceived the idea of “removing the President,” as he called it, six weeks before the shooting; that he had deliberated upon it and come to the determination to do it, and that about two weeks before he accomplished it he stationed himself at certain points to do the act, but for some reason was prevented. His preparation for it by the purchase of a pistol had been shown. All these facts came up to the full measure of the proof required to establish what the law denominated malice aforethought. The jury would find little difficulty in reaching a conclusion as to all the elements that made up the crime charged in the indictment, except it might be as to the one of sound mind, memory, and discretion—but that was only a technical expression for a responsible, sane man. He now approached that difficult question. He had already said that a man who is insane in the sense that makes him irresponsible can not commit a crime. The defense of insanity had been so abused as to be brought into great discredit. It was the last resort in cases of unquestioned guilt. It had been an excuse for juries to bring in a verdict of acquittal when there was a public sympathy for the accused, and especially where there was provocation for the homicide according to public sentiment, but not according to law. For that reason the defense of insanity was viewed with disfavor, and public sentiment was hostile to it. Nevertheless, if insanity were established to a degree necessary, it was a perfect defense for an indictment for murder, and must be allowed full weight. It would be observed that in this case there was no trouble with any question about what might be called total insanity, such as raving mania or absolute imbecility, in which all exercise of reason is wanting, and where there is no recognition of persons or things or their relations. But there was a debatable border-line between sanity and insanity, and there was often great difficulty in determining on which side of this line a person was to be put. There were cases in which a man's mental faculties generally seemed to be in full vigor, but where on one single subject he seemed to be deranged. A man was possessed, perhaps, by a belief of something absurd which he could not be reasoned out of (what was called an insane delusion), or he might have some morbid propensity, seemingly in harsh discord with the rest of his intellectual and moral nature. Those were cases which, for want of a better term, were called partial insanity. Sometimes its existence and sometimes its limits were doubtful and indefinable, and in those cases it was difficult to determine whether the patient had passed the line of moral or legal accountability for his actions.

The jury would bear in mind that a man did not become irresponsible by the mere fact of his being partially insane. Such a man did not take leave of his passions by becoming insane. He might retain as much control over them as in health. He might commit offenses, too, with which his infirmity had nothing to do. He might be sane as to the crime he committed, might understand its nature, and might be governed by the same motives in relation to it as other people, while on other subjects having no relations whatever to the crime he might be the victim of delusion. Whenever this partial insanity was relied on as a defense, it must appear that the crime charged was a product of the delusion or other morbid condition, and connected with it as effect with cause, and that it was not the result of sane reasoning which the party might be capable of, notwithstanding his limited and circumscribed disorder. Assuming that that infirmity of mind had a direct influence on crime, the difficulty was to fix the character of the disorder which fixed responsibility or irresponsibility in law. The outgoings of the judicial mind on that subject had not been always entirely satisfactory nor in harmony with the conclusions of medical science. Courts had, in former times, passed upon the law in regard to insanity without regard to the medical aspect of the subject; but it would be only properly dealt with by a concurrence of harmonious treatment between the two sciences of law and medicine. The courts had, therefore, adopted and again discarded one theory after another in the effort to find some common ground on which to stand, and his effort would be to give to the jury the results most commonly accepted by the courts. It would be well to say a word to the jury as to the kind of evidence by which courts and juries were guided in this difficult and delicate inquiry. That subtle essence called mind defied, of course, ocular inspection. It could only be known by its manifestations. The test was as to whether the conduct of the man and his thoughts and emotions conformed with those of persons of sound mind, or whether they contrasted harshly with it. By that a judgment was formed as to a man's soundness of mind. And for that reason evidence was admissible to show conduct and language that would indicate to the general mind some morbid condition of the intellectual powers. Everything relating to his mental and physical history was, therefore, relevant, because any conclusion on the subject must often rest on a large number of facts; and letters, spontaneously written, afforded one of the best indications of mental condition. Evidence of insanity in the parents was always pertinent; but juries were never allowed to infer insanity of the accused from the mere fact of its existence in the ancestors. When, however, there was evidence tending to show insane conduct on the part of the accused, evidence of insanity in the ancestors was admissible as corroborative of the others. Therefore it was that, in this case, the defense had been allowed to introduce evidence covering the whole life of the accused and reaching also his family antecedents. In a case so full of detail, he should deem it to be his duty to call the attention of the jury to particular parts of it, but he wished the jury distinctly to understand that it was their province, and not his, to decide upon the facts; and if he, at any time, seemed to express or intimate an opinion on the facts (which he did not design to do) it would not be binding on them; but they must draw their own conclusions from the evidence.

The instructions which he had already given to the jury imported that the true test of criminal responsibility, where the defense of insanity was interposed, was whether the accused had sufficient use of his reason to understand the nature of the act with which he was charged, and to understand that it was wrong for him to commit it. If those were the facts, he was criminally responsible for the act, whatever peculiarities might be shown of him in other respects. On the other hand, if his reason were so defective, in conse-

quence of brain-disease, that he could not understand what he was doing, or could not understand that what he was doing was wrong, he ought to be treated as an irresponsible lunatic. As the law assumed every one, at the outset, to be sane and responsible, the question was, What was there in this case to show the contrary as to this defendant? A jury was not warranted in inferring that a man was insane from the mere fact of his committing a crime, or from the enormity of the crime, because the law presumes that there is a bad motive, and that the crime is prompted by malice, if nothing else appears. Perhaps the easiest way for the jury to examine into the subject was, first to satisfy themselves about the condition of the prisoner's mind for a reasonable period of time before any conception of the assassination had entered it, and also at the present time, and then consider what evidence exists as to a different condition of mind at the time of the commission of the act. He should not spend any time on the first question, because to examine it at all would require a review of the evidence relating to over twenty years of the prisoner's life, and this had been so exhaustively discussed by counsel that anything he could say would be a wearisome repetition. It was enough to say that, on the one side, this evidence was supposed to show a chronic condition of insanity before the crime, and, on the other side, to show an exceptionally quick intelligence and decided powers of discrimination. The jury would have to draw its own conclusions. Was the prisoner's ordinary, permanent, chronic condition of mind such that he was unable to understand the nature of his actions, and to distinguish between right and wrong in his conduct? Was he subject, all the time, to insane delusions, which destroyed his power so to distinguish; and did those continue down to, and embrace, the act for which he is on trial? If so, he was simply an irresponsible lunatic. On the other hand, had he the ordinary intelligence of sane people, so that he could distinguish between right and wrong as to his actions? If another person had committed the assassination, would the prisoner have appreciated the wickedness of it? Would he have understood the character of the act and its wrongfulness if another person had suggested it to him? The jury must consider these questions in their own mind. If the jury were satisfied that his ordinary and chronic condition was that of sanity—at least so far that he knew the character of his own actions, and how far they were right or wrong—and that he was not under any permanent insane delusion which destroyed his power of discriminating between right and wrong, then the remaining inquiry was, whether there was any special insanity connected with this crime. It would be seen that the reliance of the defense was the existence of an insane delusion in the prisoner's mind which so perverted his reason as to incapacitate him from perceiving the difference between right and wrong as to this particular act.

As a part of the history of judicial sentiment on this subject, and by way of illustrating the difference between insane delusions and responsibility, he would refer the jury to a celebrated case in English history which had already been commented on in the arguments. Judge Cox here quoted from the opinions of the judges in the McNaughton case and from some American authorities on the same subject. He went on to say that the subject of insane delusion played an important part in this case and demanded careful consideration. The subject was treated to a limited extent in judicial decisions, but more was learned about it from works of medical jurisprudence and from expert testimony. Sane people were sometimes said to have delusions proceeding from temporary disorders and from mistakes in the senses. Sometimes they speculated on matters beyond the scope of human knowledge, but delusions in sane people were always susceptible of being corrected and removed by evidence and argument. On the contrary, insane delusions, according to all testimony, were unreasoning and incorrigible. Those who had them believed in

the existence of facts which were either impossible absolutely or impossible at least under the circumstances of the individual. A man might, with no reason for it, believe that another was plotting against his life, or that he himself was the owner of untold wealth, or that he had invented something which would revolutionize the world, or that he was the President of the United States, or Christ, or God, or that he was inspired by God to do a certain act, or that he had a glass limb, and those were cases of insane delusion. Generally, the delusion centered around the patient himself, his rights or his wrongs. It came and went independently of the exercise of will and reason, like the phantom of a dream. It was, in fact, the waking dream of the insane, in which ideas presented themselves to the mind as real facts. The most certain thing was, that an insane delusion was never the result of reasoning and reflection; was not generated by the mind, could not be dispelled by them. A man might reason himself, or be reasoned by others, into absurd opinions and be persuaded into impracticable schemes, but he could not be reasoned or persuaded into insanity or insane delusions. Whenever evidence was found of an insane delusion, it was found that the insane delusion did not relate to mere sentiment or theory, or abstract questions in laws, politics, or religion. All these were subjects of opinions, and were founded on reasoning and reflection. Such opinions were often absurd in the extreme. Some persons believed in animal magnetism, in spiritualism, and other like matters, in a degree which seemed absurd to other people. There was no absurdity in regard to religious, political, and social questions that had not its sincere supporters. Those opinions might arise from natural weakness, bad reasoning powers, ignorance of men and things, fraudulent imposture, and often from perverted moral sentiment; but still they were opinions founded on some kind of evidence, and liable to be abandoned on better information or on sounder reasoning, but they were not insane delusions. An insane delusion was the coinage of a diseased brain, which defies reason and ridicule, and throws into disorder all the springs of human action.

Before asking the jury to apply these considerations to the facts in this case, he wished to premise one or two things. The question for the jury to determine was, What was the condition of the prisoner's mind at the time when this project was executed? If he were sufficiently sane then to be responsible, it mattered not what might have been his condition before or after. Still, evidence had been properly admitted as to his previous and subsequent condition, because it threw light, prospectively and retrospectively, on his condition at the time. Inasmuch as these disorders were of gradual growth and of indefinite continuance, if he were insane shortly before or shortly after the commission of the crime, it was natural to infer that he was so at the time. But still, all the evidence must center around the time when the deed was done. The jury had heard a good deal of evidence respecting the peculiarities of the prisoner through a long period of time before this occurrence, and it was claimed on the part of the defense that he was during all that time subject to delusions that were calculated to disturb his reason, and to throw it off its balance. The only materiality of that evidence was the probability which it might afford of the defendant's liability to such disorders of mind, and the corroboration which it might yield to other evidence tending to show such disorder at the time of the commission of the crime. The jury must determine whether at the time the homicide was committed the defendant was laboring under any insane delusion prompting or impelling him to do the deed. Naturally, they would look first to any explanation of the act that might have been made by the defendant himself at the time, or immediately before or after. Several papers had been laid before them that had been in the prisoner's possession, and that purported to assign the motive for the deed. In the address to the American people of the 16th of June he

said: "I conceived the idea of removing the President four weeks ago. Not a soul knew of my purpose. I conceived the idea myself, and I kept it to myself. I read the newspapers carefully, for and against the Administration, and gradually the conviction dawned upon me that the President's removal was a political necessity, because he proved a traitor to the men who made him, and thereby imperiled the life of the nation." Again he said in this address: "Ingratitude is the basest of crimes. The President, under the manipulation of the Secretary of State, has been guilty of the basest ingratitude to the Stalwarts. His express purpose has been to crush General Grant and Senator Conkling, and thereby open the way for his renomination in 1884. In the President's madness he has wrecked the once grand Republican party, and for that he dies." And again: "This is not murder; it is a political necessity. It will make my friend Arthur President, and save the republic." The other papers were of similar tenor. There was evidence that, when arrested, the prisoner refused to talk, but said that the papers would explain all. On the night of the assassination the prisoner had said to the witness Brooks that he had thought over it and prayed over it for weeks; that he was satisfied that he had to do the thing, and had made up his mind and had done it as a matter of duty. He had made up his mind that the President and Secretary Blaine were conspiring against the liberties of the people, and that the President must die. In addition to this, the jury had the important testimony of Mr. Reynolds as to the prisoner's statements, oral and written, about a fortnight after the shooting. There he was found reiterating the statements contained in his other papers, and saying that the situation at Albany suggested the removal of the President, and that, as the faction fight became more bitter, he became more decided; that he knew that Arthur would become President, etc.

Judge Cox proceeded to quote from the address to the American people which was written and given to Mr. Reynolds:

"I now wish to state distinctly why I attempted to remove the President. I had read the papers for and against the Administration very carefully for two months before I conceived the idea of removing him. Gradually, as the result of reading the newspapers, the idea settled on me that if the President were removed, it would unite the two factions of the Republican party, and thereby save the Government from going into the hands of ex-rebels and their Northern allies. It was my own conception, and, whether right or wrong, I take the entire responsibility." A second paper, dated July 19th, addressed to the public, reiterated these statements, and added, "I have got the inspiration worked out of me." The jury had now before it everything emanating from the prisoner about the time of the shooting. There was nothing further from him until three months afterward. And now he would pass to consider the import of all this. The jury would consider, first, whether this evidence fairly represented the feelings and ideas that governed the prisoner at the time of the shooting. If it did, it represented a thing which he (Judge Cox) had not seen characterized in any judicial utterance as an insane delusion. They would consider whether it was evidence of insanity, or whether, on the contrary, it showed an ample power of reasoning and reflection on the arguments and evidence for and against, resulting in the opinion that the President had betrayed his party, and that, if he were out of the way, it would be a benefit to his party, and would save the country from the predominance of their political opponents. So far there was nothing insane in the conclusion. It had doubtless been shared by a good many heated partisans who were sane people, but the difference was that the prisoner reached the conclusion that to put the President out of the way by assassination was a

political necessity. When men reasoned, the law required them to reason correctly, so far as their practical duties were concerned. When they had the capacity to distinguish between right and wrong, they were bound to do it. Opinions, properly so called (that is, beliefs resulting from reasoning, reflection, and the examination of evidence), afforded no protection against the penal consequences of crime. A man might believe a course of action to be right, and the law might forbid it as wrong. Nevertheless, he must obey the law, and nothing could save him from the consequences of the violation of the law except the fact that he was so crazed by disease as to be unable to comprehend the necessity of obedience. [The court here quoted the decision of the Supreme Court in the Mormon case.] In like manner, he said, a man might reason himself into a conviction of the expediency and necessity of protecting the character of a political association, but to allow him to find shelter from punishment behind that belief would be simply monstrous. Between one and two centuries ago there had arisen a school of moralists who were accused of maintaining the doctrine that, whenever the end to be attained was right, any means necessary to its attainment were justifiable. Consequently, they incurred the odium of nearly all Christendom. By that method of reasoning the prisoner seemed to have gotten the idea that, in order to unite the Republican party and to save the republic, whatever means were necessary would be justifiable; that the death of the President by violence was only a proper and necessary means of accomplishing it, and was therefore justifiable; and that, being justifiable as a political necessity, it was not murder. That appeared to be the substance of the idea which the prisoner had put forth to the world, and if this was the whole of his position, it presented one of those vagaries of opinion (even if it were sincere) for which the law had no accommodation, and which furnished no excuse whatever for crime. There was, undoubtedly, a form of insane delusion, consisting of a belief by a person that he is inspired by the Almighty to do something—to kill another, for example—and this delusion might be so strong as to impel him to the commission of crime. The defendant in this case claimed that he labored under such a delusion at the time of the assassination. His unsworn declarations in his own favor were not, of course, evidence, and were not to be considered by the jury. A man's language, when sincere, might be evidence of his condition of mind, but not evidence in his favor of the facts declared by him. He could never manufacture evidence in that way in his own exoneration. The law allowed a prisoner to testify in his own behalf, and therefore made his sworn testimony on the witness-stand legal evidence, to be received and considered, and given such weight to as it deserved. No verdict, however, could be safely rendered on the sole evidence of an accused party under such circumstances. Otherwise, a man on trial for his life could secure his acquittal by simply testifying that he had committed the crime under a delusion or inspiration, or irresistible impulse. That would be to proclaim a universal amnesty to criminals in the past, and unbounded license in the future, and courts of justice might as well be closed.

He would say a word about the characteristics of that form of delusion. The idea of being inspired to do an act might be either a sane belief or an insane delusion. A great many Christian people believed not only that events were providentially ordered, but that they themselves received special providential guidance and illumination in respect both to their inward thoughts and their outward actions. But this was a mere sane belief. On the other hand, if a man sincerely, though insanely, believed that, like St. Paul on his way to Damascus, he had been smitten to the earth and had seen a great light and had heard a voice from heaven warning and commanding him to do a certain act, that would be a case of imaginary inspiration amounting to an insane delusion. The ques-

tion was, whether the case of this defendant presented anything analogous to that. The theory of the Government was that the defendant committed this homicide in full possession of his faculties and from perfectly sane motives; that he did the act from revenge, or, perhaps, from a morbid desire for notoriety; that he calculated deliberately on being protected by those who were to be benefited politically by the death of the President; that he made no pretense of inspiration at the time of the assassination, nor until he had discovered that his expectations from the so-called Stalwart wing of the Republican party were delusive; and that then, for the first time, he broached this theory of inspiration and irresistible pressure to the commission of the act. Whether this was true or not the jury must determine from the evidence. It was true that the term "inspiration" did not appear in the papers first written by the defendant, nor in those delivered to Mr. Reynolds, except at the close of the one dated July 19th, in which he said that the inspiration was worked out of him (although what was meant was not clear), and it was true, also, that that was after he was informed that he was being denounced by the Stalwarts. Judge Cox referred to the testimony of Dr. Noble Young, Dr. McDonald, and Dr. Gray, and this, he said, was about the substance of what appeared in the case on the subject of inspiration. The question for the jury was whether, on the one hand, the idea of killing the President first presented itself to the defendant in the shape of a command or inspiration of the Deity, in the manner in which insane delusions of that sort arose; or whether, on the other hand, it was a conception of his own, and whether the thought of inspiration was not simply a speculation, or theory, or theoretical conclusion of his own mind. If it were the latter, it was nothing more than one of the vagaries of reasoning, which he had already characterized as furnishing no excuse for crime. He had dwelt upon the question of insane delusion simply because the evidence relating to that was evidence touching the defendant's power or want of power (from mental disease) to distinguish between right and wrong as to the act done by him. This was the broad question for the jury to determine, and was what was relied upon by the defense. It had been argued with force on the part of the defense that there were a great many things in the defendant's conduct which could not be expected of a sane man, and which were only explainable on the theory of insanity. There were strange things in his career, and whether they were really indications of insanity, or could be accounted for by his ignorance of men, by his exaggerated egotism, or by his bluntness of moral sense, it might be difficult to determine. The only safe rule, however, was for the jury to direct its attention to the one test of criminal responsibility, namely, whether the prisoner possessed the mental capacity, at the time the act was committed, to know that it was wrong, or whether he was deprived of that capacity by mental disease. There was one important distinction which the jury must not lose sight of, and they must decide how far it was applicable to this case. That was the distinction between mental and moral obliquity; between the mental incapacity to distinguish between right and wrong, and the moral insensibility to that distinction.

In conclusion, he said:

From the materials presented to you two pictures have been drawn to you by counsel. The one represents a youth of more than average mental endowments, surrounded by certain immoral influences at the time his character was being developed; commencing life without resources, but developing a vicious sharpness and cunning; conceiving "enterprises of great pith and moment" that indicated unusual forecast, although beyond his resources; consumed all the time by unsated egotism and a craving for notoriety; violent in temper, selfish, immoral, and dishonest; leading a life of hypocrisy, swindling, and fraud; and finally, as a culmination of his de-

praved career, working himself into the resolution of startling the world with a crime which would secure him a bad eminence. The other represented a youth born, as it were, under malignant influences—the child of a diseased mother and of a father subject to insane delusions, reared in retirement and imbued with fanatical religious views; subsequently, his mind filled with fanatical theories, launched on the world with no guidance save his own impulses, evincing an incapacity for any continuous employment; changing from one pursuit to another—now a lawyer, now a religionist, and now a politician—unsuccessful in all; full of wild, impracticable schemes, for which he had neither resources nor ability; subject to delusions; his mind incoherent and incompetent of reasoning coherently on any subject; with a mind so weak and a temper so impressionable that he became deranged, and was, therefore, impelled to the commission of a crime the seriousness of which he could not understand. It is for you, gentlemen, to determine which of the portraits is the true one.

And now, gentlemen, to sum up all I have said to you, if you find from the whole evidence that at the time of the commission of the homicide the prisoner was laboring under such a defect of his reason that he was incapable of understanding what he was doing, or of seeing that it was a wrong thing to do—as, for example, if he were under the insane delusion that the Almighty had commanded him to do the act—then he was not in a responsible condition of mind, but was an object of compassion and should be now acquitted. If, on the other hand, you find that he was under no insane delusion, but had the possession of his faculties, and had power to know that his act was wrong; and if, of his own free-will, he deliberately conceived the idea and executed the homicide, then, whether his motive were personal vindictiveness, political animosity, a desire to avenge supposed political wrongs, or a morbid desire for notoriety; or, if you are unable to discover any motive at all, the act is simply murder, and it is your duty to find a verdict of guilty as indicted. Or, if you find that the prisoner is not guilty by reason of insanity, it is your duty to say so. You will now retire to your room and consider your verdict.

The jury retired at 4.40 P. M., and shortly afterward the court took a recess until 5.30. Some time before the court reassembled, or within thirty minutes from their retirement, the jury intimated that they had agreed upon a verdict. When order had been restored after the recess, the foreman of the jury, in answer to the customary question as to the verdict, answered, "Guilty as indicted." On the demand of Mr. Scoville, the jury was polled, and at the call of his name each jurymen answered, "Guilty." As the last name was called, the prisoner shrieked: "My blood will be upon the heads of that jury. Don't you forget it!" Mr. Scoville again addressed the court, saying: "Your Honor, I do not desire to forfeit any rights I may have under the law and practice in this District. If there is anything that I ought to do now to save those rights, I would be indebted to your Honor to indicate it to me." Judge Cox, in reply, assured him that he should have every opportunity; that the charge would be furnished to him, in print, and he would be accorded all the time allowed by law within which to file his exceptions, and that he would also be entitled to four days within which to move in arrest of judgment. Guiteau called out in tones of desperation, "God will avenge this outrage!" Judge Cox then turned to the

jury and said: "Gentlemen of the jury, I can not express too many thanks for the manner in which you have discharged your duty. You have richly merited the thanks of your countrymen, and I feel assured you will take with you to your homes the approval of your

consciences. With thanks, gentlemen of the jury, I dismiss you." With this announcement, the court was declared adjourned.

Subsequently a motion for a new trial was overruled, and the prisoner was sentenced to be hanged on the following June 30, 1882.

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HALSTED, RICHARD FREDERICK, died May 24, 1881, in Sing Sing, N. Y., in the fiftieth year of his age, having been ill during ten years, for five of which he was almost totally blind. At the outbreak of the civil war he was first lieutenant in the sixth company of the Seventh Regiment, New York State National Guard. He accompanied that regiment on its first march to Washington. He entered the United States service, June 14, 1861, as major of the Fortieth Regiment, New York Volunteers. On April 26, 1863, he was appointed aide-de-camp to General Sedgwick, and was with the Army of the Potomac until its disbandment, when he went to the Department of Texas. He served with Major-Generals John Sedgwick and H. G. Wright as staff-officer, and under division commanders Heintzelman, C. S. Hamilton, and Kearney. He was also in the Sixth Corps, and temporarily in the Second and Ninth, General Sedgwick having been assigned to these before taking command of the Sixth Corps. With this corps he made the Shenandoah Valley campaign, and was engaged at Williamsburg, Fair Oaks, the Seven Days, and Fredericksburg (the second battle where the Sixth Corps fought alone, the balance of the army being at Chancellorsville), Marye's Heights, Salem Heights, Gettysburg, Rappahannock Station, the Wilderness, and the following days, until the death of Sedgwick, May 19th, when he came home with his remains. Returning to his command June 1st, he was at Cold Harbor, in two engagements at Winchester, Fisher's Hill, Cedar Creek, besides many skirmishes, the movement against Early at Washington, and the crossing of the Shenandoah by the Sixth Corps. He was brevetted major and lieutenant-colonel of volunteers, and resigned July 1, 1866.

HAVEN, ERASTUS OTIS, born in Boston, November 1, 1820; died in Salem, Oregon, August 2, 1881. He graduated from the Wesleyan University in 1842, and was for some years an instructor at Sudbury, Massachusetts. In 1846 he was appointed Principal of the Amenia Seminary, New York, and held this position during two years. In 1848 he entered on the itinerant ministry of the Methodist Episcopal Church, and was first stationed in New York, where he was a pastor until 1853, when he became a Professor of Greek and Latin in the University of Michigan. In the following year he was appointed Professor of the English Language, Literature, and History in

the same institution. From 1856 to 1863 he was editor of "Zion's Herald," a journal published in Boston. In 1862 he was elected a member of the Massachusetts Senate, where he served two years, and was specially prominent as an advocate of educational interests. He was also a member of the State Board of Education. In 1863 he became President of the University of Michigan, and held that position until 1869. Under his administration the university doubled in numbers and resources, becoming one of the largest in the country. Bishop Haven was next appointed President of the Northwestern University, at Evanston, Illinois, and continued to hold that office three years, giving entire satisfaction. From 1872 to 1874 he was Corresponding Secretary of the Board of Education of the Methodist Episcopal Church. In 1874 he was elected Chancellor of the Syracuse University, and in 1880 was made bishop. In 1881 he was assigned to San Francisco and the Pacific coast generally. He was a member of five general conferences, and the author of "The Young Man Advised" (1855), "Pillars of Truth" (1860), and "Rhetoric, a Text-Book for Schools" (1869).

HAYMERLE, HEINRICH CARL, BARON, Prime Minister of Austria, died at Vienna, October 10th. He was born at Vienna in December, 1828, of German parents who had been living for some time in Bohemia. After studying in the Vienna School for the Oriental Languages, he found a position as assistant interpreter to the Austrian embassy at Constantinople in 1850. During the Crimean War he was sent on a mission to Omer Pasha for securing protection to Austrian subjects. In 1857 he was sent to Athens as secretary of legation, and acted there for a time as *chargé d'affaires*. He was secretary of legation at Dresden and at Frankfort. After the war of 1864 he was intrusted with a mission to Copenhagen for the object of re-establishing friendly relations with the Danish Government. Returning to Frankfort in 1866, he took part in the negotiations connected with the Treaty of Prague. He was then transferred to Berlin, where he was *chargé d'affaires* until 1868. He was ennobled in 1867. Called to the Ministry for Foreign Affairs by Count Beust, he again went to Constantinople and from there to Athens as *chargé d'affaires*. He was appointed Ambassador to Rome in 1877. At the Berlin Conference in 1868 he acted as the third Austrian delegate. When Count Andrassy re-

signed the premiership in 1879, Haymerle was called to succeed him. The duty fell to him of carrying out the stipulations of the Austro-German treaty of alliance concluded by Andrassy.

HEARING, OR COLOR-HEARING. This latter expression has been applied to a phenomenon, of which some few persons are conscious. It is the appearance of certain colors accompanying the perception of music-sounds or noises. In 1873 Nussbaumer described this double perception, as he and his brother had it, and Herren Bleuler and Lehmann, in Zurich, have recently made a more systematic study of the subject. The colors attending notes differ in different individuals. Generally the higher notes are accompanied by lighter colors, and the lower by darker. Chords either cause the colors which correspond to their notes to appear side by side, or give a mixture of those colors. A thorough musician who was examined perceived a distinct color with each key—viz., C major, gray; G flat major, reddish brown; A major, blue; A minor, lead-color; F sharp major, yellow; and so on. The same note in different keys changes in color according to the color of the key in which it is found. To many persons, too, the same piece played by different instruments appears in different colors. Noises, again, are generally accompanied with colors, these being usually of a gray or brown hue. Increased intensity of sound affects the color perceived, and more so in the case of noise than in that of musical notes: in the latter the intensity of color is increased; in the former a transparent effect observed gives way in some measure to opacity. These writers pursue their studies into the colors some minds perceive on hearing consonants, vowels, diphthongs, words, etc., some of which cases seem to be explicable by direct "association." By four persons sound was perceived as a result of sensations of light and color—e. g., a broad, quietly-burning gas-flame led to perception of a sound constructed of *w* and a light vowel like *e*. When the flame flickered the sound grew similar to *l*. In color-hearing no essential difference between the two sexes has been demonstrated. Of 76 "color-hearers," 59 per cent were males and 41 per cent females. The percentage of "color-hearers" in 596 individuals examined was only 12.5. The phenomenon is to a great degree hereditary.

HEATING OF HOUSES. Engineers have been experimenting in Great Britain, with satisfactory results, upon the warming of buildings, with reference to the avoidance of smoke and the economy of fuel. Dr. C. W. Siemens has devised an arrangement for burning coke and gas together in an open fire-place, by which a greater heating effect is obtained than from coal or from coke alone, and at a lower cost than either of those fuels. Coke is the more perfect fuel of the two, because none of the calorific effect is diverted to the volatilization

of the hydrocarbons and ammonia of the natural coal. From 100 pounds of the best English coal 66 pounds of coke, containing 6 pounds of earthy matter, and 34 pounds of volatile matter, comprising, besides water-vapor, ammonia, and tar, 16 pounds of pure combustible gas, are obtained in the gas-retort. The 60 pounds of solid carbon contained in the coke develop in combustion 870,000 heat-units; the 16 pounds of illuminating gas on burning give forth 352,000 heat-units. From the sum must be deducted 60,000 units, the approximate amount of heat required for liberating the volatile constituents of the coal, and heating the coke to redness, leaving 11,600 heat-units per pound as the maximum heating effect that can be obtained from coal. In practice only a small part of this is utilized, only about one eighth of the possible maximum being obtained in the best steam-engines. In domestic economy the loss of heat is much greater still. Coke alone is very hard to burn in a chimney-fire, and burns without flame. Both these objections are removed by Dr. Siemens's ingenious grate, in which jets of gas are used to ignite the coke, increase the heat, and afford a cheerful flame. His grate is admirably constructed to throw out the largest possible proportion of the heat into the apartment. Besides being absolutely smokeless, the coke-gas fire heats better than any coal-fire, it can be regulated at will, it is lighted without trouble, requires no stirring, and the fuel costs less than coal. The cost per day of nine hours, at London prices, was found to be 2.60*d.* for 62 cubic feet of gas at 3*s.* 6*d.* per thousand, and 2.121*d.* for 22 pounds of coke at 18*s.* per ton, in all 4.725*d.* per day, or .527*d.* per hour, against 5.7*d.* per day, or .633*d.* per hour for a coal-fire taking 47 pounds of coal a day at 23*s.* a ton. In the process of separating gas from coal the marsh-gas, which is of low illuminating power, leaves the coal first, and the olefiant and acetylene gases afterward. If a double system of reservoirs and mains were used in cities, the former could be drawn off and served for heating purposes, for which it is admirably adapted, being less likely to produce soot than the other gases, while they are greatly superior as illuminants.

HENNI, JOHN MARTIN, born 1805, in Canton Graubünden, Switzerland; died September 7, 1881, at Milwaukee, Wisconsin. Archbishop Henni was one of the oldest Catholic prelates in America. He studied at St. Gallen and Lucerne, and, after graduating, visited Rome in furtherance of his aspirations to the priesthood. He emigrated to America in 1829, at the request of the Rt. Rev. Dr. Fenwick, Bishop of Boston. The same year he was consecrated to the priesthood. Cincinnati and Canton, Ohio, were the first scenes of his ministerial labors, and soon after that he became Vicar-General of the diocese. In 1835 he visited Europe for financial aid, and was most successful in his efforts, and, on his return, he estab-

lished St. Aloysius Orphan Asylum, and a Catholic periodical. On March 19, 1844, he was consecrated as the first Catholic Bishop of Milwaukee, by Bishop Purcell. As soon as the bishop entered upon his duties, he began to display great zeal and enthusiasm. In 1847 St. Mary's Church was consecrated, the number of priests increased to thirty, the cornerstone of a new cathedral laid, and St. Mary's Hospital founded. In 1848 he visited Europe for funds a second time, but was not altogether successful, on account of the French Revolution. On his return he ordered the work of the cathedral to be stopped for a time, as the money intended for it was wanted for the more urgent need of an orphan asylum. Hoping to replace the funds necessary to complete the cathedral, the bishop went to Mexico and Cuba, where he collected money enough for the requirements of his diocese. In 1855 the new cathedral was consecrated. His next work was the diocesan seminary, which by the year 1860 was freed from all money incumbrances, and had one hundred and twenty-five students. In 1875 he was made first Archbishop of Milwaukee, and in February, 1879, celebrated the fiftieth anniversary of his priesthood. On this occasion of his "golden jubilee" more than a hundred clergymen and nine bishops were present. Services of great solemnity were conducted in St. John's Cathedral, a fine edifice founded by Archbishop Henni. In a diocese established only thirty-seven years, through the untiring toil and wise administration of its first bishop, a cathedral church has been built and consecrated, 262 ordinary churches, 24 chapels, and 25 stations established, an ecclesiastical seminary, 13 religious communities, 11 charitable institutions, a normal school, 3 male academies, and 5 female. There are 185 secular and 38 regular priests.

HIDDENITE. A new mineral, which has hitherto been found only in a single narrow vein in Alexander County, North Carolina, has been introduced by the jewelers, and accepted as a gem of the highest order. It is a green stone of extraordinary brilliancy, hardness, and transparency, possessing a peculiar color, very vivid and intense. The new gem is called *hiddenite*, from the name of its discoverer, W. E. Hidden. It was at first classed as diopside, from its green hue, transparency, and nearly identical crystalline form and properties; but was afterward, when it was attempted to detect the cause of its color by chemical analysis, identified as a variety of spodumene. This mineral species differs only a fraction of a degree from diopside in its prismatic angle, and resembles it also in possessing an easy cleavage in two directions. The present emerald-green variety is of a uniform prismatic crystalline form. The crystals show a considerable variety in habit. Twin crystals are common. The planes of the fundamental prism are pitted with remarkable little depressions of rhomboidal shape, the outlines of which are paral-

lel to the prismatic edges. The same wedge-shaped hollows occur with less frequency on the other planes, and appear also in the cleavage. The crystals vary in length from $\frac{1}{2}$ to 2 or 3 inches. They are usually very slender, though sometimes having a thickness in the direction of the clinodiagonal axis of $\frac{1}{2}$ to $\frac{1}{4}$ inch; in the other transverse direction they are much thinner. No previously discovered variety of spodumene has any value for jewelers' purposes. Like beryl, it is a mineral which occurs in large crystals, but either opaque or with only a trace of color. The beauty and rarity of the hiddenite distinguish it from the other varieties of spodumene as the emerald is distinguished from the other beryls. The latter species is of much commoner occurrence than spodumene. The hiddenite is the most beautiful and valuable of American gems, and is the only precious stone found solely in the United States. It possesses all the qualities most valued in precious stones—rarity, brilliancy, and evenness of color, transparency, and excessive hardness, and immediately took rank among the most costly gem-stones. It has brought the same price per carat as diamonds, and one large stone, weighing $2\frac{1}{2}$ karats, has been sold for over \$125 a carat, though not a perfect specimen. The name given to it by lapidaries is the *lithia-emerald*. It was so named on account of the presence of over seven per cent of lithia in the stone, a substance which is not found in the beryl emerald. Lapidaries find it a difficult stone to cut, on account of its perfect cleavage in two directions. The coloring matter to which its peculiar and beautiful green hue is owing has not been discovered, but is probably vanadium, the coloring agent in variscite. The discovery of the new mineral was first announced by Professor Hidden in 1879, but it was first observed by I. A. D. Chamberlain in 1876. The color of the finest crystals is a deep emerald-green. Owing to their dichroism, the gems cut from them possess a peculiar fire, which is wanting to the true emerald.

HOLLAND, JOSIAH GILBERT, born in Belchertown, Massachusetts, July 24, 1819; died in New York city, October 12, 1881, aged sixty-three. Dr. Holland graduated at the Berkshire Medical School in Pittsfield, Massachusetts, and practiced his profession three years. He then removed to Springfield, Massachusetts, where he edited a literary paper for a short time. Going to Vicksburg, Mississippi, he lived there a year as Superintendent of Public Schools, after which he returned to Springfield and became, in 1849, associate editor of the "Republican," and, two years later, one of the owners of that paper. His connection with the "Republican" continued until 1866, when he sold his entire interest in it, and withdrew from newspaper business, although his career in journalism had been prosperous and lucrative. During his association with the "Republican," Dr. Holland entered upon the

literary work that afterward won for him such wide and flattering popularity. His first book, "History of Western Massachusetts," was published in 1855, and was succeeded by a novel entitled "The Bay Path," in 1857. This work seemed not to succeed very well, and the next year he began to publish, under the pseudonym of "Timothy Titcomb," the remarkable series of letters which made the assumed name of the author a household word. For these letters he experienced some difficulty in finding a publisher, but finally Mr. Charles Scribner recognized their merit, and, seeing for them a grand success, published them in 1858. During this year Dr. Holland made his first venture as a poet, and gave to the public his famous "Bitter-Sweet," a poetical tale of New England life, which has passed through more editions than any other American poem, with one exception. "Gold Foil" followed in 1859, and the year after the author of these successful works ventured another novel, "Miss Gilbert's Career." "Lessons in Life" appeared in 1861, "Letters to the Joneses" in 1863, "Plain Talk on Familiar Subjects" in 1865, and a "Life of Abraham Lincoln" in 1866. For this biography the publishers offered him three thousand dollars; he demanded five, but subsequently agreed to a compromise by which the author was to receive twenty cents on each copy sold. As more than 100,000 copies were sold, the arrangement proved satisfactory to Dr. Holland. "Kathrina," another narrative poem, was published in 1867, and this may be said to have marked the close of an epoch in the life of the man, as of the author. The following year he carried out his long-cherished wish to visit the Old World, where he traveled in England, Scotland, France, Belgium, Germany, Switzerland, Italy, and Austria. His tour seemed not to realize his expectations, and his pen made no pictures of the "beaten track" over which so many writers have wandered. At Geneva, with Mr. Roswell Smith, he conceived the idea which he afterward wrought out in "Scribner's Magazine." Long previous to this Mr. Scribner had solicited Dr. Holland to go to New York and edit a journal there known as "Hours at Home," but this offer did not meet the ambitious views of a mind eager for a literary enterprise unencumbered by traditions. In 1870 Dr. Holland, as editor and one third owner, began publishing "Scribner's Magazine," with Roswell Smith and Scribner, Armstrong & Company as joint owners.

It was a success from the first. During his conduct of this journal he found time for other literary labor, and in 1872 published "The Marble Prophecy." "Arthur Bonnicastle" appeared in 1873, and in the same year came "Garnered Sheaves," a collection of poems. In 1874 "The Mistress of the Manse," a novel, was issued.

Dr. Holland's contributions to other magazines than his own were not profuse. A few to "Hours at Home" and the "Atlantic

Monthly" are among his articles for contemporary journals. As a lecturer he was extremely popular, having in the duller seasons more invitations than he was able to accept, and always commanding a large price for his services upon the platform. A few years before his death his income from his various literary resources was estimated at \$25,000.

While the reputation of a great author has never been conceded to him, Dr. Holland justly held a very high rank in American literature, upon which his influence was confessedly pure and healthful. The unaffected directness of his style seemed to carry the vigorous freshness of his thought in a clear current to the deepest sympathies of his readers, and, if not so artistic as others, his delineation of character was always natural and forcible, leaving the reader with a sense of intimate acquaintance among the personages of his fiction. His volumes of "Letters to Young People" were full of excellent if not original counsel, conveyed in a manner so pleasing, sincere, and good-humored as to win the attention and enlist the interest of those he sought to benefit. As a poet his rank was in the second grade, but "Bitter-Sweet" and "Kathrina" are charming in the simplicity of theme and construction and the limpid purity of their sentiment. They leaped into popularity, and have never lost their hold upon the public fancy. His excellent ear for the music of verse and his command over forms of expression gave to his poems not unfrequently a lyrical power and sweetness of melody which caused them to sing themselves into the hearts of his readers. In his "Complaint" this quality is manifestly illustrated in the lines:

River, sparkling river, I have fault to find with thee;
River, thou dost never speak a word of peace to me.
Dimpling to each touch of sunshine, wimpling to each air
that blows;

Thou dost make no sweet replying to my sighing for repose.

This poem voices the thought of a grief-stricken soul, upon whom the joyousness and light indifference of Nature jar, but who recognizes that it is himself that is out of tune. A cardinal principle of Dr. Holland's editorial management was to develop American capacity in literature and art; and many writers and artists, whose reputations are now secure, made their first appearance in "Scribner's Monthly." For such disinterested services the memory of this good man can not be held too gratefully, and his genial, large-hearted sympathy with all laudable ambition will long be sorely missed by the struggling talent of America. To the highest virtues of a Christian gentleman Dr. Holland added many of the most attractive social qualities that endear a man to his fellows. Nature had granted him the blessing of a fine and pleasing presence, to which his high culture lent increasing luster.

HUNGARY, a kingdom of Europe, and one of the two principal divisions of the Austro-Hungarian Monarchy (see AUSTRO-HUNGARIAN MONARCHY). The Hungarian Ministry, at the

close of 1881, was composed as follows: President of the Ministry and Minister of the Interior, Kolomon Tisza de Borosjenő; Minister near the King's person (*ad latus*), Baron Bela d'Orczy; Minister of Education and Worship, Augustus de Trefort; Minister for the Defense of the Country, Colonel B. Szende de Keresztes; Minister of Public Works, Paul d'Ordödy; Min-

ister for Croatia and Slavonia, Gabriel Baron de Pronay; Minister of Justice, Dr. Theodor Pauler; Minister of Finance, Count Szapary; Minister of Agriculture, Commerce, and Industry, Baron Kemény.

The area and population of the countries of the Hungarian crown are as follows, according to the census of December 31, 1880:

COUNTRIES.	Square kilometres.	POPULATION.		
		Male.	Female.	Total.
Hungary, Transylvania, and New Orsova.....	280,480·04	6,742,662	6,957,343	13,700,005
Fiume (free city).	19·82	9,985	11,378	21,363
Croatia and Slavonia	23,263·57	588,730	603,115	1,191,845
Military Frontier	20,382·01	354,355	343,161	697,516
Total	324,045·04	7,695,732	7,914,997	15,610,729

In the budget for Croatia and Slavonia for 1880, the receipts and expenditures were estimated at 3,603,464 florins.

The public debt of Hungary, at the beginning of 1880, amounted to 1,001,330,351 florins, exclusive of the common debt of the empire. Hungary also has a share in the liability for the public debt of Austria proper, about 30 per cent of its amount, previous to 1868, falling upon her. This debt is regarded as exclusively Austrian, but Hungary pays annually a fixed sum for interest and for amortization. The so-called common floating debt is guaranteed by both parts of the empire, and Hungary's share of this also amounts to 30 per cent. The assets of the state were estimated, in 1879, at 1,114,900,000 florins.

The Chamber in April adopted a bill providing for the levying of a statistical import tax. The amount was small indeed, but the measure still created considerable excitement in Austria, where it was regarded as the precursor of a complete customs-barrier between the two parts of the empire. The Austrian Minister of Commerce, as well as Count Taaffe, declared to a delegation of Austrian merchants that they could see in it no infringement of the customs and commercial union of the two countries.

The Diet passed, shortly before its adjournment in June, the bill regulating the commercial relations with Germany. It was generally regretted that nothing beyond a most favored-nation clause had been secured. Count Apponyi demanded a thorough change in the customs policy, and even attacked the customs union with Austria. M. Tisza, however, declared in reply that the damage for Hungary could not be estimated if two customs territories were to exist in the monarchy, and it might even happen in such a case that the export of Hungarian products to Austria would be entirely prevented.

New elections for the Diet were held throughout Hungary, from June 27th to July 4th, and resulted in large gains for the Government party, giving it a majority of over fifty in the new Diet. The Diet was opened on September 28th by the King. In his speech he announced

a convention with Serbia, laws regulating the relations of Fiume to Hungary, and called attention to the gradually approaching equality of receipts and expenditures. The debates on the address led to a declaration of M. Tisza that the authorities desired above all things a friendly relation between the soldiers and citizens, and that he would see to it that the citizens were protected against excesses of the military, as well as the military against the citizens.

The question of incorporating the Military Frontier with Croatia was finally settled in February, when the Hungarian and Croatian deputations came to an agreement. Croatia had demanded that it be granted an increase in the number of deputies to the Hungarian Diet, corresponding to its increase of population. This claim, which was strongly opposed by the Hungarians, the Croats finally dropped, and contented themselves with the six new deputies to which they were entitled in accordance with the increase of population in Croatia proper. The incorporation was completed by a royal decree of July 14th, which relieved the inhabitants of the Military Frontier from their arduous duty of protecting the empire against the invasion of the Turks, and placed them on the same footing as the inhabitants of the other parts of the empire.

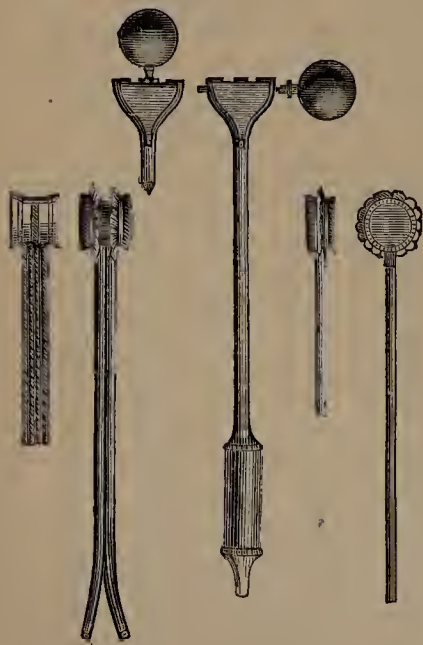
The city of Fiume, which had been for some time a bone of contention between Hungary and Croatia, was in July finally given to Hungary. It had been assigned to Hungary by the compromise of 1868, but the Croats protested against this arrangement; in July, however, the Diet of Croatia, after a debate extending over two days, agreed to submit to the compromise.

The agitation against the Jews was also felt in Hungary during the year. An anti-Semitic meeting of students had been prohibited by the police in Budapest in March, and the Government was interrogated by M. Istoczy, who had on a previous occasion proposed to send all the Jews to Palestine. M. Tisza, in reply, stated that he would not interfere with free speech as long as there was no danger of breaches of the peace. Any meeting, however,

which assembled for the purpose of creating ill-feeling between different nationalities or creeds would be prohibited.

HYDRODYNAMIC ANALOGIES TO ELECTRICITY AND MAGNETISM. Though in our terminology the conception of electricity is still retained as an imponderable fluid pervading the interstices of matter, physicists have long since ceased to hold such a view. Like light, electricity is now regarded by them as due to the molecular vibrations of the bodies exhibiting the phenomena, and many refined researches have in late years been directed toward determining the form and characteristics of these vibrations in the electrically-excited body and in the intervening medium. Very considerable light has, during the year, been thrown upon this problem of electrical action by the remarkable experiments of Dr. C. A. Bjerknes, of Christiania, Norway, who, by simple mechanical means, has succeeded in producing most of the fundamental phenomena of electricity and magnetism. The experiments are the more significant, from their being the outcome of mathematical analysis instead of due to accident. As has long been known, a vibrating tuning-fork, brought into the neighborhood of a light object, such as a small balloon, will attract it. This has been explained as due to the unequal air-pressure upon the opposite sides of the balloon, the air on the side toward the fork being rarefied by its excursion. It is this idea which Dr. Bjerknes has carried out in his experiments—using, however, a liquid as the medium of his vibrations, instead of air. The motions produced were of two kinds, pulsa-

FIG. 1.



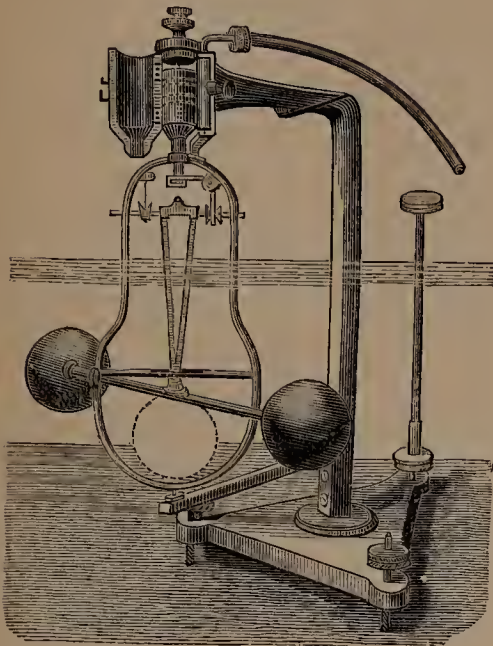
tions and oscillations, the former being made by small drums with flexible heads, and the latter by flexible spheres, such as are represented in Fig. 1. These are immersed in wa-

ter and thrown into vibration by means of air alternately forced in and withdrawn. As the apparatus supplying the air can be readily adjusted to varying conditions, vibrations of any rate can be produced at will. Operating with simple drums, in which the two flexible heads perform like motions at the same time, Dr. Bjerknes found that when the motions of two drums were of the same phase—that is, when they were inflated and collapsed at the same time—attraction ensued; but when the phases were discordant—that is, when one drum was inflated while the other was collapsed—there was repulsion. By fixing one of the drums upon a light arm so as to allow it to revolve, these effects were shown in a very marked manner, the free drum approaching the other during attraction and moving away during repulsion. This effect illustrates the action between two magnets, though here the attraction occurs with like phases, and repulsion with unlike ones, while with magnets the reverse is true. Since both heads of the drum possess the same phase, it is analogous to an isolated pole of a magnet, or to a magnet having a succeeding point in the middle. In order to have two poles, it is necessary to use a double drum—that is, one divided into two compartments by a stiff partition. Each of these chambers must then be connected with a separate air-pump in both drums, which greatly complicates the apparatus. The desired effect can, however, be produced without this complication by using oscillating spheres, which present the two phases at the same time, one side advancing while the other recedes. Repulsion or attraction of the free drum can therefore be obtained simply by presenting to it one side or the other of the sphere. For the free drum a second sphere may be substituted, when similar phenomena will result. In the arrangement shown in Fig. 2, two spheres are carried on the ends of a light cross-bar free to move. If a third vibrating sphere be presented to either of these, rotation occurs, its direction depending upon whether there is attraction or repulsion. The effect is analogous to that of two short magnets mounted upon a cross-bar and free to revolve. If for the two spheres a single one be substituted, as shown in the dotted line, an effect is obtained similar to that of a short magnet hung on a pivot like a compass-needle.

Dr. Bjerknes considers the water as analogous to Faraday's medium, and therefore attributes the effects, not to the mutual action of the bodies upon each other, but to the action of each body upon the liquid. In this view, when a vibrating body and the liquid have their motions in the same direction, the body moves away from the center of disturbance, and toward it when these motions are in opposite directions. If a vibrating sphere be brought near a ball of cork, kept in the liquid by a thread, repulsion results, the phenomenon corresponding to diamagnetism. If, however,

a ball heavier than the liquid be substituted for the cork, attraction ensues, presenting an analogy to paramagnetism. The explanation of these effects is that, in the first case, the oscil-

FIG. 2.



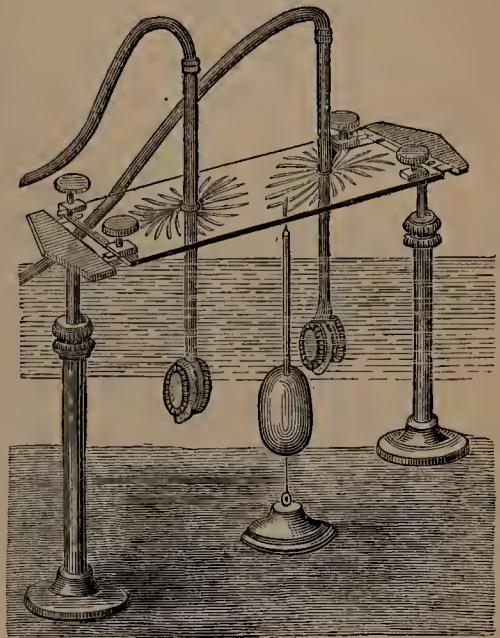
lations of the cork are greater than the water, and are hence relatively in the same direction, while in the latter case the movement of the ball is less than that of the water, and consequently, relatively to it, opposite in direction. These effects are very clearly shown by an apparatus in which a rod of cork and one of metal are immersed in the liquid. On bringing near to them a vibrating drum the cork sets itself equatorially, and the metal rod axially.

By a very simple piece of apparatus, illustrated in Fig. 3, Dr. Bjerknes succeeded in reproducing the well-known magnetic curves taken by iron filings when brought near the pole of a magnet. To do this he mounted a cylinder or sphere upon a spring and affixed to its upper part a fine paint-brush. When the vibrating drums or spheres were caused to move in the neighborhood of this, it was thrown into vibration, and its movement traced by the brush upon a glass plate placed above. In this way the curves for all the different vibrations are graphically depicted. With two drums pulsating concordantly the figure is exactly like that assumed by iron filings in a field of two

similar magnetic poles, while, when they are discordant, the figures are those of two unlike magnetic poles.

As the outcome of these experiments and his mathematical analysis, Dr. Bjerknes considers magnetism to be a rectilinear vibration instead of a kind of molecular rotation, as physicists

FIG. 3.



have been wont to regard it. On this view an electric current would be a circular oscillation, the direction of the current being the axis of oscillation. The experimental illustrations of the effects of a current are much more difficult than those of magnetism, as there are required, instead of bodies in vibration, bodies in alternating rotation, and so far but a few of the more simple ones have been made. It was found necessary, to produce friction enough, to use a viscid fluid instead of water, which introduced various difficulties hard to overcome. Tracings of the figures produced by his moving bodies were, however, obtained and found to agree exactly with those produced on a glass plate by iron filings in the neighborhood of electric currents. Dr. Bjerknes is still occupied with carrying on his mathematical investigations, and devising means for their experimental demonstration. Such studies can not but be of the greatest value, as giving clear ideas of the mechanism of electric action.

I

ICE, HOT. Professor Thomas Carnelly has discovered that ice and other bodies under exceedingly low pressures will not pass into the liquid state, but remain solid when the temperature is raised far above their melting-points, and then vaporize directly. Water was

congealed in thin layers about a thermometer-bulb in an ample Torricellian vacuum, and on the sides of the vessel, in which the pressure did not exceed 1.0 to 1.5 millimetre. The vessel was a tube of glass, inclosing the thermometer, and communicating with a bottle above

in which the vapor given off in a partial fusion of the ice was instantly congealed, and so did not alter the pressure. Boiling water was introduced into the tube below the thermometer through the mercury-trough. It was first frozen by means of the application of a freezing mixture. The mass of solid ice in the tube was melted by a Bunsen flame, the upper part of the ice-column fusing with difficulty. On grasping the tube with the hand, violent ebullition took place, causing the water to splash up the sides of the tube and on the bulb of the thermometer, where it froze in thin layers. Upon the application of the flame of the Bunsen's burner the ice on the walls of the tube partly gave way; the rest and that on the bulb remained solid, while the thermometer rose to temperatures between 120° and 180°, and when the ice yielded to the heat it immediately volatilized without melting. The first melting of the solid column of ice and that of portions of the layer which afterward formed on the sides of the tube, are ascribed to imprisoned steam and the pressure caused by it. In one experiment, in which the heat applied was so strong as to cause the fusion of the ice on the sides of the bulb, when the lamp was removed for a few seconds the water congealed again on the bulb, though the glass was so hot that it could not be touched without burning the hand. The surprising character of these results caused some to doubt the testimony of the thermometer; but calorimetric tests proved that the temperature of the ice actually rose as indicated. Mercuric chloride was found to remain solid under diminished pressure, at temperatures far above its melting-point, and even above its boiling-point. With this substance the reverse of the experiment with ice was tried, and the fact of there being no intermediate liquid state between the solid and the gaseous at these minimum pressures was confirmed. The chloride was liquefied and brought to a boil at the ordinary pressure. Then the pressure was reduced by a Sprengel pump. The boiling-point was lowered under the diminished pressure, being carried below the usual melting-point to the point at which it ordinarily resolidifies, at which temperature the boiling liquid began to solidify. The solid mercuric chloride obtained under these conditions differed greatly in appearance from that solidified in the ordinary way, consisting of a mass of pearly leaves closely packed together around the thermometer-bulb.

ILLINOIS. The sessions of the Legislature of Illinois are held biennially, and commence on the Wednesday after the first Monday of January. The day of opening the last session was the 5th of January. In the House, W. W. Thomas was chosen Speaker; and in the Senate Lieutenant-Governor Hamilton presided.

The session continued until the 1st of June. During its period there were in all 1,167 bills introduced—456 in the Senate and 711 in the House. Of these, 124 passed and reached the

Governor. The Senate passed 121 bills, of which 59 got through the House, and 65 House bills. The House passed 131 of its own bills, and 59 Senate bills.

One of the earliest movements in the Legislature related to the subject of temperance. A bill was presented in the House which forbade the grant of any license to keep a dram-shop in any town or ward or election district, except on the petition of a majority of the inhabitants, male and female, over twenty-one years of age.

The prohibitory nature of this bill was such that its passage was impossible in the House, and the movement took the form of an amendment to the State Constitution by a vote of the people. For this purpose the following amendment was proposed: "No person shall manufacture, sell, or keep for sale, in this State, any alcohol, whisky, high-wines, wine, ale, beer, or other intoxicating liquors whatever, except for medical, scientific, and manufacturing purposes, and the General Assembly shall enforce this article by appropriate legislation."

At the same time the State Temperance Alliance held a convention at the capital. It was numerously attended, and adopted the following resolution:

Resolved, That while we can not indorse the principle of licensing the sale of intoxicating liquors, and believe the whole theory of licensing evils to be impolitic and wrong, nevertheless, as the present laws look toward the repression of some of the evils incident to the traffic, we pledge ourselves to use all means in our power to enforce them.

The sentiment of the House relative to some portion of the management of railroad corporations and their property found expression in the adoption of the following resolutions, without discussion:

Whereas, The published reports of the leading railroads chartered and operating under the laws of this State show a constantly increasing surplus of net earnings, enabling the managers to pay large dividends, not only upon the cost of the roads, but in many cases upon a fictitious "watered" capital; and

Whereas, At common terminal points the freight and passenger traffic of the railroads is pooled or adjusted by "eveners," and injurious discrimination is made in favor of "through business," and in favor of certain cities, as against other cities where there are no competing lines of railroad, thus depriving the people of the benefit and protection of competition to which they are justly entitled; and

Whereas, We hold the true principle to be that, when the capital actually invested in a railroad has been fairly compensated, the rest of the benefits and advantages resulting from the construction of said railroad belong to, and should be enjoyed by, the people; and

Whereas, Under the existing laws of Illinois and the present mode of assessing railway property, said property does not bear its proportionate share of the taxes and expenses of the government; therefore, be it

Resolved, That the Committee on Railroads be instructed to report to this House, with the least possible delay, a bill for enactment containing the following provisions:

1. A bill to prevent the pooling of traffic-earnings at any and all competing points in this State wherever two or more companies are operating railroads.

2. Bill making it a penal offense for the managers of any railway company to allow a shipper of freight any kind of rebate or drawback whereby such shipper secures benefits and advantages over others.

3. A bill requiring the managers of all railroad companies to make a full and complete statement, under oath, to the Railway Commissioners, of the actual cost of their respective railway properties, including equipment, and excluding all increase of stock not based upon *bona fide* expenditures of construction, and further requiring such railway managers to make a semi-annual statement of the gross receipts and expenditures, together with the fixed charges of such roads, and empowering the Railway Commissioners to require of any railway company a reduction if its freight and passenger tariff-earnings (after payment of all fixed charges) for twelve consecutive months shall exceed in amount the sum required to pay six per cent per annum upon the actual cost of such railways.

4. A bill changing the present mode of assessing railway property, and containing a provision that will insure in the future such property bearing its fair proportion of the burdens of taxation.

5. A law forbidding unjust discrimination in favor of cities where there are competing lines of railroad, as against cities and stations where there is but one line; also preventing discrimination in favor of through freight and passenger traffic, as against local traffic, and in favor of large shippers, as against small shippers.

6. A bill requiring all railroads chartered by this State to have a stock-transfer office located at some accessible point within the State, and the stock-books to be kept open for the inspection of any stockholders in such company.

7. A bill making it a penal offense for the managers of any railroad company to issue stock in excess of the cost of such road, after deducting the amount received from the sale of its bonds. Also, promising additional stock based upon an increase or supposed increase in value after completion, or in any manner adding to, or "watering" its capital stock; and also prohibiting railroad companies from paying dividends upon any such fictitious stock.

No acts, however, were passed relating to the subjects of these resolutions.

An unsuccessful effort was also made to effect the passage of a bill known as "the Compulsory Education Bill." The bill was introduced into the Senate early in the session and referred to the Committee on Education. This committee reported it with a recommendation of its passage. The main feature of the bill was contained in its first section, which was as follows:

That every parent, guardian, or other person having control and charge of any child or children between the ages of eight and fourteen years, shall be required to send any such child or children to a public school for a period of at least twelve weeks in each school year, which is to commence on the first Monday in September, and at least six weeks of which shall be consecutive, unless such child or children are excused from such attendance by the Board of Education or school directors of the city, town, or district, as the case may be, in which its parents or guardians reside, upon its having been shown to their satisfaction that the bodily or mental condition of such child is such as to prevent its attendance at school or application to study for the period required, or that such child is taught in a private school or at home, in such branches as are ordinarily taught in the public schools. Provided, that in case a public school shall not be taught for three months during the year within one and one half mile, by the nearest traveled road, of the residence of any such person within the school district, he shall not be liable to the provisions of this act.

An important act was passed to prevent and punish the adulteration and sale of any article of food, or drink, or medicine. This act went into operation on July 1st. Its provisions are of a stringent nature. It is based upon the present British statute, which was enacted after an experience of twenty years, in the course of which it was shown that it was not possible to carry statutes of this kind too far. The act of the Illinois Legislature provides that no person shall mix any food or drink with any ingredient so as to render the article injurious to health, or to depreciate its value, and that no person shall offer such articles of adulterated food or drink for sale; that like adulterations in medicines shall be unlawful; that no ingredients, even when not of a harmful character, shall be incorporated in any article of food, or drink, or medicine, unless the true name of the ingredients shall be stamped upon the package, or unless the purchaser shall be informed by the seller of the true name of such ingredients; that no mixture of oleomargarine, fat, or other foreign substance, shall be added to butter or cheese except upon similar conditions. The penalties are, for the first offense, a fine of \$25 to \$200; for the second offense, of \$100 to \$200, or confinement in jail of from one to six months; for the third offense, fine of from \$500 to \$1,000, and imprisonment from one to five years.

This law makes two distinctions: First, that no article which is injurious to health shall be mixed in any manner in any food, or drink, or medicine, under criminal penalties; second, that where harmless ingredients are added, the name of such ingredients shall be clearly marked upon each package, or the seller shall notify the buyer of the adulteration and its character. The first provision makes adulteration a crime; the second makes it a fraud. There of course can be no objection to the exclusion from all food of articles of adulterations which are positively dangerous to health. It was feared that the provisions of the sixth section might do much to defeat the object of the act. That section provides that no person shall be convicted under the act if he shall show "to the satisfaction of the court or jury that he did not know he was violating the act," and that he could not, with respectable diligence, have obtained the knowledge. It involves a principle totally at variance with one of the fundamental principles of law. Every man is bound to know the law, and may not plead his ignorance of it, yet this adulteration act permits an accused person to make an exhibit to court and jury of his conscience, his thoughts, and his mental processes. It is difficult to see what standard can be set up by which a court or jury is to be satisfied as to the mental processes of a person who may have dealt in adulterated goods, especially when on trial for a first offense.

An act was passed to provide such means as would prevent and suppress the spread of

pleuro-pneumonia among cattle. It empowers the Governor to appoint a State Veterinarian, who shall have authority to order a quarantine of infected premises and slaughter of diseased animals, and provides for appraisement of their value and payment of the same. It also empowers the Governor, when the necessity exists, to prohibit the importation of live-stock believed to be infected, unless they can furnish a certificate of health. A heavy fine for non-compliance is imposed. It also makes the failure to report any case of pleuro-pneumonia, by any person having infected cattle upon his premises, a misdemeanor. The State Veterinarian is allowed \$8 per day for each day actually employed, and \$2,000 to use in disinfecting premises, etc., and \$8,000 is appropriated to pay for slaughtered animals.

The traffic in deadly weapons is regulated by another act which prescribes the conditions of their sale and prevents minors from becoming purchasers. It is made a misdemeanor for any one to have, sell, or give away any slung-shot, metallic knuckles, or similar deadly weapons. Also to sell, loan, or give to any minor a pistol, bowie-knife, dirk, or similar deadly weapon. A fine of from \$25 to \$200 is provided as a penalty for carrying a concealed weapon of the kind specified, or a razor, or for flourishing any deadly weapon in a boisterous or threatening manner.

The law relating to marriages was so amended as to make those legal which were celebrated according to the form adopted by the Quakers.

The law of insurance was so amended as to add "tornadoes" to the list of causes of damage against which fire-insurance companies may insure.

The most important change in the revenue law was made by the passage of an act which provides for a return to the former system of annual assessments for real estate.

The manufacture of "bogus butter" is forbidden by the following section of another act:

That whoever manufactures out of any oleaginous substances, or any compound of the same other than that produced from unadulterated milk or cream from the same, any article designed to take the place of butter or cheese produced from pure unadulterated milk or cream of the same, or shall sell or offer for sale, or give to any person the same as an article of food, shall, on conviction thereof, be fined not less than \$25 nor more than \$200.

An act to regulate the practice of pharmacy was passed and went into operation on July 1st. It makes it unlawful for any person other than a registered pharmacist to retail, compound, or dispense drugs, medicines, or poisons, or to conduct a store for that purpose, unless such person is in the employ of a registered pharmacist, or shall put one in charge. The qualifications required for registration are that the person shall either be a graduate in pharmacy or medicine, or shall at the time the act takes effect be engaged in the drug business on his own account, or shall be a licentiate in

pharmacy. The Governor is to appoint a board, composed of five competent pharmacists. This board is to examine all applications for registration, to grant certificates and enforce the law. Penalties are provided for refusal to comply with the act. Also, for the adulteration of drugs and the sale of adulterated medicines, and for the sale of poisons by any but registered pharmacists.

The method of raising the revenue for State purposes was again agitated, but without any immediate result. At nearly every session, of late years, measures looking to a more thorough revision of the revenue system have been proposed. But the question has been a difficult one to deal with in the hope of giving entire satisfaction to the people. The Legislature has, therefore, generally adopted some temporary acts, and left the main question for future consideration. At the session of 1877, an important bill was prepared, and further considered in the session of 1879, but it failed to pass the House near the close of that session. During this session two measures of importance on the subject were presented in the House. The first proposed a radical change by putting upon corporations—railroad, express, telegraph, and insurance—the burden of providing revenue for State purposes. The second measure was presented under the form of the following resolutions, which were referred to the committee on revenue:

The Constitution provides that "the General Assembly shall provide such revenue as may be needful, by levying a tax by valuation so that every person and corporation shall pay a tax in proportion to the value of his or her or its property," and,

Whereas, Under the operations of the present revenue law of the State, no such proportion is observed; and,

Whereas, Said revenue law is cumbersome, unreasonably expensive, and unjustly discriminative in operation; and,

Whereas, The equitable apportionment of the burdens of taxation demands the radical revision of the revenue laws of this State; and,

Whereas, The time and circumstances of assembling of the General Assembly are inadequate and inconvenient to the proper consideration of this matter; therefore,

Resolved (the Senate concurring herein), That a commission of seven on revenue reform be created, three of whom shall be appointed by the Speaker of the House of Representatives, two by the President of the Senate, and two by the Governor, and that said commission organize immediately upon its appointment by electing one of its number chairman and another secretary.

Resolved, further, That it shall be the duty of said commission to thoroughly and exhaustively inquire and examine into the revenue systems of the different States and of other nations, and to collate and digest the same; to particularly examine the systems of taxation of the various forms of personal property, tangible and intangible, and the property of railway and other corporations, and to report its finding to the next General Assembly, together with a simple, economical, and practical measure, which shall embody the aforesaid requirements of the Constitution and of justice.

Resolved, further, That for the purpose aforesaid, such commission be authorized to continue its investigations to such time as it shall see fit and proper.

None of these measures were adopted; but they were regarded as important steps toward a successful revenue system. Meanwhile, of the eight acts relating to revenue which were adopted, one of the most important authorized the annual assessment of real estate, in lieu of the quadrennial method which has been followed for many years. Some of the arguments in favor of this law consisted in the fact that, in some cases, assessments have been made at an unreasonably low figure, which, under the four-year system, were perpetuated to the injury of other sections of the State; the fact that in some cases there has been rapid appreciation in the value of real estate, etc. Another important measure empowered the authorities of certain cities, villages, and incorporated towns to increase the tax to be levied for corporate purposes, including the erection of school-houses and the maintenance of schools, payment of interest on indebtedness, etc.

The following is the apportionment of the State into districts for the election of a member of Congress from each one:

First—Townships of Bloom, Bremen, Calumet, Lemont, Lyons, Orland, Palos, Rich, Thornton, Worth, Hyde Park, and Lake, in Cook County, and the Third, Fourth and Fifth Wards of Chicago.

Second—County of Du Page, and the townships of Leyden, Cicero, Riverside, and Proviso, in Cook County, and Second, Sixth, Seventh and Twelfth Wards, and that part of the Eighth Ward south of the center line of Taylor Street, in Chicago.

Third—First, Ninth, Tenth, Eleventh, Thirteenth, and Fourteenth Wards, except that part of the latter north of the center line of Division Street and east of the following, viz.: The center line of Ashland Avenue from Division Street north to the center line of Clybourne Place, thence northeast along said line to the center line of Elston Avenue, thence northwesterly along said line to the city limits.

Fourth—County of Lake, townships of Barrington, Elk Grove, Evanston, Hanover, Jefferson, Lake View, Niles, Maine, New Trier, Northfield, Norwood Park, Palatine, Schaumburg, Wheeling, and North Chicago, and that part of the Fourteenth Ward in Chicago which is north of the center line of Division Street, and east of the following line, to wit: The center line of Ashland Avenue from Division Street north to the center line of Clybourne Place, thence northeast along said line to the center line of Elston Avenue, thence northwesterly along said line to the city limits.

Fifth—McHenry, Boone, Winnebago, Stephenson, and Ogle. Population, 123,944; Republican majority, 8,119.

Sixth—Jo Daviess, Carroll, Whitesides, Lee, and Henry. Population, 139,510; Republican majority, 5,645.

Seventh—Kane, De Kalb, Kendall, Grundy, and Will. Population, 128,955; Republican majority, 8,119.

Eighth—Kankakee, Iroquois, Livingston, Ford, Woodford, and Tazewell. Population, 162,282; Republican majority, 2,002.

Ninth—La Salle, Bureau, Putnam, and Marshall. Population, 124,200; Republican majority, 1,029.

Tenth—Rock Island, Mercer, Henderson, Warren, Hancock, and McDonough. Population, 154,846. Republican majority, 665.

Eleventh—Peoria, Stark, Knox, and Fulton. Population, 146,237. Republican majority, 1,031.

Twelfth—Adams, Schuyler, Brown, Pike, Scott, Greene, and Calhoun. Population, 163,432; Democratic majority, 3,216.

Thirteenth—McLean, Logan, De Witt, Macon, and

Piatt. Population, 148,424; Republican majority, 2,031.

Fourteenth—Champaign, Vermilion, Douglas, Edgar, Coles, and Cumberland. Population, 164,647; Republican majority, 1,327.

Fifteenth—Mason, Cass, Menard, Morgan, Sangamon, and Christian. Population, 156,419; Democratic majority, 1,336.

Sixteenth—Macoupin, Jersey, Moultrie, Montgomery, Shelby, Fayette, and Effingham. Population, 167,491; Democratic majority, 2,068.

Seventeenth—Clark, Jasper, Crawford, Clay, Richland, Lawrence, Wayne, Edwards, and Wabash. Population, 137,970; Democratic majority, 449.

Eighteenth—Clinton, Marion, Jefferson, Franklin, Hamilton, White, Saline, Gallatin, and Hardin. Population, 153,851; Democratic majority, 1,502.

Nineteenth—Madison, Bond, St. Clair, Monroe, and Washington. Population, 161,663; Republican majority, 65.

Twentieth—Randolph, Perry, Jackson, Williamson, Union, Johnson, Pope, Alexander, Pulaski, and Massac. Population, 162,727; Republican majority, 886.

All the outstanding bonds of the State were called in for redemption by the Governor, and holders were notified that interest would cease on the 1st of January, 1882. They amounted to \$250,000, and the money was in the Treasury to pay them. This extinguishes the debt of the State.

An appropriation was made by the Legislature, at its previous session, for an investigation of the food of birds and fishes, to be made at the State Laboratory of Natural History by the director, Professor S. A. Forbes. The results obtained were made public in a bulletin containing six papers, which form a connected series, constituting, practically, the first installment of a report on a natural history survey of the State, made with principal reference to its economical interests. This is the first serious and accurate study of the subject attempted in this country. It interests alike the entomologist, the ornithologist, and the husbandman. The first of the series of papers lays the foundation for the discussion of the facts obtained. Then follows an elaborate paper on the food of the spiny-finned fishes (the darters, perch, pike, bass, sunfish, and sheepshead), giving, as the result of a careful microscopic study of 425 stomachs, an account of the food of the various species in different parts of the State and at different times of the year, and at all ages of the individual. The paper is one of importance to practical fish-culture and to zoological science.

Next comes a similar study of the food of the young of all orders of fishes, demonstrating the fact that nearly all young fishes, however varied the food of the adult may be, live upon substantially the same material, i. e., the minute crustacea found most abundantly in stagnant water.

A report is then given of an investigation of the food of some of the most important birds, viz., the robin, catbird, and the other thrushes, and the bluebird. The study of the contents of the stomachs of 423 birds afforded the facts upon which the principal statements of this paper are based. Definite conclusions are

reached respecting the value of these birds to the farmer and the gardener.

Finally, growing out of the work on the food of birds, are two papers on the food of predaceous beetles, showing that many species which have hitherto been regarded as strictly insectivorous, really depend to a very great extent upon vegetable structures.

The State has an Industrial University, from which about 1,500 students have graduated during its existence. They have gone into practical avocations as farmers, machinists, chemists, railway-builders, teachers, etc. An art-gallery in the Capitol of the State contains illustrations of the various kinds of instruction imparted to the students. The results presented as the fruits of the carpenter's and machine shops have been thus described :

One follows the beginner, step by step, as he first planes out a simple squared bit of wood, a lesson which proves a most serious one, before the accurate demands of the inexorable instructor are satisfied. Then the squared piece is dressed into octagonal and cylindric forms, the latter as smooth and as truly rounded, answering the tests of sight and touch, as if turned in the lathe. Then follows a series of joints, mortises and tenons in many forms, dados, dovetails, miters, hopper-joints, and splices, all accurately fitted, not forced nor stuffed with glue, sawdust or "dutchmen," but truly joined, wood and wood, in workman's fashion. This series contains twenty-five lessons and shows the results of two hours' work per day for a term of fourteen weeks. Advanced work follows ; turning, molding, with elegant specimens of veneered and inlaid work. This school shows also a series of models of structures built to scale. The one year's builder's course is illustrated by a frame of a barn, every brace, mortise, and pin accurately shown, the timbers evidently so placed as to do the most good. Two models of stairways are presented, one a regular "flier and winder," the other having an elliptical well, both furnished with hand-rails, newels, and balusters complete.

The circuit of the architectural work leads to the work of the machine-shop. Here the student begins in the pattern-shop—first upon simple forms, afterward on others more intricate. Then he works at the wood-lathe. Blacksmith's work follows ; upsetting, drawing, bending, shaping, etc.; then at the vise, with cold-chisel and file ; then turning with hand-tools at the small lathe ; with machine-tools at the engine-lathe ; drilling and counter-boring ; and finding true surfaces with the planer. In both these series of elementary work no value whatever attaches to the pieces when finished. If not wanted as a sample, it goes to the kindling-wood or the scrap-pile. Often illustrating the doctrine of the "survival of the fittest," it is to the workman only a silent memento of many others, spoiled and discarded by accident, want of skill, or inattention. Other space in this case is occupied by working models of mechanical movements in iron and brass, made in the shop by advanced pupils. During the last few terms, the higher classes of this school have been occupied in the construction of a large and powerful drilling-machine.

Unusual interest has been awakened in a portion of the State relative to the construction of a canal from Davenport, on the Mississippi River, to Hennepin, on the Illinois River. This would open a line of water communication between Lake Michigan and the Mississippi River. The opening of what has been termed "the Mississippi barge route" from St. Louis

to the sea, for the transportation of grain to New Orleans, was the basis of the excitement. The immense quantities of grain transported by these large barges threatened very seriously the interests of Chicago, and foreboded a commercial revolution. With a continuous line of water route to the sea-board *via* the lakes, the St. Lawrence River, and the Erie Canal, Chicago got early control of the grain-shipping business of the West, and left to St. Louis only such share of the trade as the latter could contrive to secure by reduced railroad tariffs in summer or by the equality enforced by the frosts of winter, when such grain as was moved to the sea-board by rail might come as well from the one as from the other of the competing cities. Chicago, however, had the lion's share of the business the year round, such is the pertinacity with which trade will flow in channels to which it has become accustomed. But a revolution was impending. With the cost of barge transportation from St. Louis to New Orleans only five or six cents a bushel, and with vessels at the latter place ready to take wheat to Liverpool for twenty cents a bushel, St. Louis seemed to have grasped at last the scepter of the grain-trade.

Conventions were held in various places to give expression to the views of those whose interests were affected. At one held at Davenport, on May 26th, the following, among many other resolutions, were adopted :

This convention, representing the people of the Mississippi Valley and the Northwest, in pursuance of the call for a convention, and in furtherance of the purposes thereof, unanimously declare :

1. That Congress should devise by law, and sustain by liberal and efficient appropriations, a system of cheap transportation by water route, connecting the Mississippi River and its tributaries with the Eastern Atlantic sea-board and Gulf of Mexico.

2. That it has been the policy of Congress and the desire of the people of the Northwest for many years, to inaugurate and complete a system of water-channel improvement, having the Mississippi for its base. To give greater efficiency to this policy, there should be constructed from the Mississippi River, on the most direct and feasible route to the Illinois River, at Hennepin, and thence to the lake at Chicago, a canal adequate to the present and future transportation needs of the great part of the Northwest to whose people such work of internal improvements is an imperative necessity for relief from expensive freight rates on the produce and commerce of the country, and that the work so long needed should be immediately commenced.

3. That the continued improvement of the Mississippi River under the auspices of the Mississippi River Commission, created by act of Congress, is a work of great importance, and Congress ought to promote the scheme of improvement by the most liberal appropriations, in a separate appropriation bill therefore ; and we emphasize and enforce the united and earnest demand of the people of the entire Mississippi Valley that Congress shall make prompt and adequate appropriations for the improvement of the river and its navigable tributaries, from the falls of St. Anthony to the Gulf of Mexico, and that this convention has no sympathy with any policy that would depreciate or hinder this great enterprise of making fully navigable, and of building up the great commerce upon this central river, Nature's great highway of the continent.

During the year there was a decline in the quantity of breadstuffs received in the city of Chicago equal to 27,000,000 bushels, but the value of the receipts during 1881 far exceeded that of the larger quantity received in 1880. There were nearly 20,000,000 bushels of corn and 8,000,000 bushels of wheat less received in 1881 than in 1880, but the increase of wheat, in the form of flour, about equalled the decline in the receipts of wheat in the usual form. The increase in the flour-trade is represented by 1,741,611 barrels more than was received in 1880. Five hundred and thirty-nine thousand barrels of flour were consumed in the city during the year.

The causes for the falling off in the receipts of corn were that the corn-crop was largely a failure. The following is a summary of the receipts and shipments of breadstuffs, farm products, provisions, live-stock, coal, lumber, and salt, during the year, as contrasted with the receipts and shipments of the same articles in 1880. In the totals of breadstuffs the barrels of flour are reduced to bushels of wheat:

GRAIN, ETC.	RECEIPTS.		SHIPMENTS.	
	1881.	1880.	1881.	1880.
Flour, barrels..	4,957,000	8,215,389	4,654,000	2,862,787
Wheat, bushels	15,122,000	23,541,607	17,483,000	22,796,258
Corn, bushels..	73,842,000	97,272,844	74,234,400	93,572,934
Oats, bushels..	25,007,600	23,490,915	23,225,000	20,649,427
Rye, bushels..	1,463,000	1,869,213	1,179,000	1,365,165
Barley, bushels	6,582,000	5,211,536	8,081,000	8,110,935
Totals, bush.	143,825,610	165,855,370	140,200,400	154,377,115
Beef, packages.	2,100	6,282	111,300	117,208
Pork, barrels..	52,800	39,091	317,490	367,324
Meats, tons....	69,630	82,219	393,450	479,018
Lard, tons....	30,585	34,194	136,870	166,770
Tallow, tons....	10,330	9,290	10,385	15,217
Dres. hogs, No.	53,700	89,102	86,800	83,194
Live hogs, No..	6,470,900	7,059,355	1,235,460	1,394,990
Cattle, No.....	1,546,330	1,382,477	976,430	836,614
Sheep, No.....	493,820	335,810	249,080	156,510
Horses, No....	12,500	10,873	10,800	8,713
Seeds, tons....	135,360	122,963	121,750	97,503
B. corn, tons...	10,490	6,312	75,000	5,630
Butter, tons...	33,005	33,663	23,300	29,935
Hides, tons....	37,800	36,582	40,520	38,150
Liquors, barrels	4,500	129,473	5,180	213,582
Wool, tons	27,200	20,098	24,700	19,269
Potatoes, bush.	2,294,000	931,253	873,000	197,794
Coal, tons....	3,444,100	2,706,083	656,000	621,996
Hay, tons....	56,700	46,739	12,860	15,446
Lumber, M.....	1,853,040	1,561,779	1,911,785	925,632
Shingles, M....	785,430	643,547	838,700	184,375
Salt, barrels...	1,169,420	1,707,446	950,650	1,062,023
Lead, tons....	28,000	15,000	13,000	17,800
Poultry, tons..	3,000	5,700		
Eggs, packages	160,000	155,000		
Cheese, tons...	24,000	21,832		
Apples, barrels	705,000	400,000		
Beans, bushels.	173,000	118,193		

The general result may be thus stated:

Weight of farm produce, tons.....	6,215,000
Weight of farm produce, tons, in 1880	6,635,000
Decrease, tons ($6\frac{1}{2}$ per cent)	420,000
Value of farm produce.....	\$377,000,000
Value of farm produce in 1880.....	312,000,000
Increase (21 per cent).....	\$65,000,000
Wholesale sales.....	\$423,000,000
Wholesale sales in 1880.....	388,500,000
Increase (8 $\frac{7}{8}$ per cent).....	\$34,500,000

Manufacturers' products.....	\$309,000,000
Manufacturers' products in 1880.....	235,000,000
Increase.....	\$24,000,000

RECAPITULATION.

Farm products.....	\$377,000,000
Wholesale sales.....	423,000,000
Manufacturers' sales.....	309,000,000
Total.....	\$1,109,000,000
Deduct for duplications.....	94,000,000
Grand net total of trade.....	\$1,015,000,000
Same in 1880.....	900,000,000
Increase (12·8 per cent).....	\$115,000,000

Another indication of the great increase in the business transactions during the year is shown in the Clearing-House returns, which were as follows:

Clearing-House, 1881.....	\$2,250,000,000
Clearing-House, 1880.....	1,725,000,000
Increase in 1881.....	\$525,000,000

The following is a statement of the equalized value of lands, lots, and personal property (other than railroad) in the State for the year 1881. It is prepared from the reports of the State Board of Equalization:

COUNTIES.	Amount.	COUNTIES.	Amount.
Adams.....	\$16,056,187	Lee.....	\$3,066,133
Alexander.....	1,722,464	Livingston.....	10,337,083
Bond.....	2,865,493	Logan.....	5,654,040
Boone.....	4,250,945	Macon.....	9,062,468
Brown.....	2,572,567	McDonough.....	8,419,622
Bureau.....	10,646,724	McHenry.....	7,101,515
Calhoun.....	953,617	McLean.....	18,638,006
Carroll.....	4,704,090	Macoupin.....	10,516,749
Cass.....	13,794,375	Madison.....	13,298,426
Champaign.....	11,294,388	Marion.....	3,786,560
Christian.....	8,553,918	Marshall.....	4,597,404
Clark.....	2,743,264	Mason.....	4,294,180
Clay.....	2,520,810	Massac.....	1,064,376
Clinton.....	3,578,262	Menard.....	3,847,930
Colas.....	5,863,610	Mercer.....	6,350,450
Cook.....	148,934,940	Monroe.....	2,634,580
Crawford.....	2,169,426	Montgomery.....	7,545,755
Cumberland.....	1,659,681	Morgan.....	8,427,050
De Kalb.....	8,636,990	Moultrie.....	8,403,567
De Witt.....	4,752,022	Ogle.....	9,702,010
Douglas.....	4,608,455	Peoria.....	13,001,232
Du Page.....	5,983,445	Perry.....	1,970,637
Edgar.....	7,190,392	Piatt.....	4,721,484
Edwards.....	1,914,955	Pike.....	7,972,888
Effingham.....	2,417,569	Pope.....	1,278,500
Fayette.....	8,323,033	Pulaski.....	652,143
Ford.....	3,744,408	Putnam.....	1,787,012
Franklin.....	1,206,874	Randolph.....	4,691,352
Fulton.....	10,491,077	Richland.....	2,046,219
Gallatin.....	1,407,926	Rock Island.....	6,605,532
Greene.....	6,152,773	Saline.....	1,229,394
Grundy.....	4,647,101	Sangamon.....	16,261,765
Hamilton.....	1,428,170	Schuyler.....	3,899,694
Hancock.....	9,115,244	Scott.....	2,666,542
Hardin.....	615,460	Shelby.....	7,007,380
Henderson.....	2,395,516	Stark.....	3,974,419
Henry.....	10,935,449	Saint Clair.....	14,488,193
Iroquois.....	9,557,367	Stephenson.....	3,223,390
Jackson.....	2,143,703	Tazewell.....	9,020,356
Jasper.....	2,297,864	Union.....	1,625,395
Jefferson.....	2,337,643	Vermilion.....	11,665,539
Jersey.....	4,166,600	Wabash.....	1,304,008
Jo Daviess.....	4,805,730	Warren.....	7,313,763
Johnson.....	1,031,427	Washington.....	4,326,977
Kane.....	12,386,093	Wayne.....	2,612,161
Kankakee.....	5,461,522	White.....	2,560,229
Kendall.....	3,976,426	Whitesides.....	8,323,390
Knox.....	14,216,179	Will.....	11,557,130
Lake.....	5,518,315	Williamson.....	1,499,274
La Salle.....	13,289,553	Winnebago.....	8,700,133
Lawrence.....	1,816,143	Woodford.....	6,883,363
Total.....	\$754,486,606		

As finally returned by the census of 1880, the population of the State by counties is given

in the following table, together with the corresponding figures for 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adams.....	59,135	56,362	Hardin.....	6,024	5,113	Morgan.....	31,514	28,463
Alexander.....	14,308	10,564	Henderson.....	10,722	12,582	Moultrie.....	13,699	10,365
Bond.....	14,866	13,152	Henry.....	36,597	35,506	Ogle.....	29,937	27,492
Boone.....	11,508	12,942	Iroquois.....	35,451	25,782	Peoria.....	55,355	47,540
Brown.....	13,041	12,205	Jackson.....	22,505	19,634	Perry.....	16,007	13,123
Bureau.....	33,172	32,415	Jasper.....	14,515	11,234	Platt.....	15,533	10,953
Calhoun.....	7,467	6,562	Jefferson.....	20,686	17,864	Pike.....	33,751	30,763
Carroll.....	16,976	16,705	Jersey.....	15,542	15,034	Pope.....	13,256	11,437
Cass.....	14,493	11,580	Jo Daviess.....	27,528	27,820	Pulaski.....	9,507	8,752
Champaign.....	40,363	32,737	Johnson.....	13,078	11,248	Putnam.....	5,554	6,250
Christian.....	23,227	20,363	Kane.....	44,939	39,091	Randolph.....	25,690	20,859
Clark.....	21,394	13,719	Kankakee.....	25,047	24,352	Richland.....	15,545	12,803
Clay.....	16,192	15,875	Kendall.....	13,033	12,399	Rock Island.....	38,302	29,733
Clinton.....	13,714	16,235	Knox.....	38,344	39,522	Saint Clair.....	61,306	51,068
Coles.....	27,042	25,235	Lake.....	21,296	21,014	Saline.....	15,940	12,714
Cook.....	607,524	319,966	La Salle.....	70,403	60,792	Sangamon.....	52,394	46,352
Crawford.....	16,197	13,839	Lawrence.....	13,663	12,533	Schuyler.....	16,249	17,419
Cumberland.....	13,739	12,233	Lee.....	27,491	27,171	Scott.....	10,741	10,530
De Kalb.....	26,763	23,265	Livingston.....	38,450	31,471	Shelby.....	30,270	25,476
De Witt.....	17,010	14,763	Logan.....	25,037	26,509	Stark.....	11,207	10,751
Douglas.....	15,353	13,434	McDonough.....	27,970	23,509	Stephenson.....	31,963	30,603
Du Page.....	19,161	16,635	McHenry.....	24,903	23,762	Tazewell.....	29,666	27,903
Edgar.....	25,499	21,450	McLean.....	60,100	53,983	Union.....	13,102	16,513
Edwards.....	8,597	7,565	Macon.....	30,665	26,431	Vermilion.....	41,533	30,233
Effingham.....	15,920	15,633	Macoupin.....	37,692	32,726	Wabash.....	9,945	8,841
Fayette.....	23,241	19,633	Madison.....	50,126	44,131	Warren.....	22,933	23,174
Ford.....	15,099	9,103	Marion.....	22,636	20,622	Washington.....	21,112	17,599
Franklin.....	16,129	12,652	Marshall.....	15,055	16,956	Wayne.....	21,291	19,733
Fulton.....	41,240	38,291	Mason.....	16,242	16,184	White.....	23,037	16,846
Gallatin.....	12,361	11,134	Massac.....	10,443	9,581	Whitesides.....	30,335	27,503
Greene.....	23,010	20,277	Menard.....	13,024	11,735	Will.....	53,422	43,013
Grundy.....	16,732	14,933	Mercer.....	19,502	13,769	Williamson.....	19,324	17,329
Hamilton.....	16,712	13,014	Monroe.....	13,632	12,932	Winnebago.....	30,505	29,301
Hancock.....	35,337	35,935	Montgomery.....	23,073	25,314	Woodford.....	21,620	18,956
Total.....							3,077,571	2,539,391

IMMIGRATION. The immigration to the United States during 1880 and 1881 surpassed that of any previous years in the history of the country. The whole number of arrivals of immigrants during the five months ending November 30, 1881, was 291,318, and the whole number for the year ending June 30, 1881 (including six months of 1880), was 669,431. The whole number registered as arriving at American ports, during the year 1880, was 593,703, the largest number ever recorded in a single year. The only previous year in which the number of immigrants exceeded 500,000 was 1873, when 522,545 arrivals were recorded. The number of immigrants then fell off till 1877, when it was only 130,526—the lowest since 1862—but rose to 153,207 in 1878, and to 250,565 in 1879; and, as the figures already given show, more than doubled upon this in 1880. The arrivals at the single port of New York during 1880 amounted to 327,371, or an average of nearly 900 a day. Only two previous years are recorded in which the number of arrivals at this port exceeded 300,000, viz.: 1852, 300,992; and 1854, 319,223. While in the two years last named the larger proportion of the arrivals was from Ireland, the preponderance of emigration in 1880 was from the Continent, particularly from Germany and the Scandinavian countries. The immigrants arriving at New York during 1880 are classified according to their nativity as follows: from Ireland, 66,399; from Germany (including a few from Austria), 108,725; from the Scandinavian kingdoms, 50,731; from Eng-

land, 33,768; from Scotland, 9,625; from Wales, 3,588; from Hungary, 6,672; from Holland and Belgium, 4,568; from Switzerland, 8,223; from France, 4,087; from Italy, 11,190; from Bohemia, 7,606; from Russia (mostly Mennonites and of German origin), 7,693; from Spain and Portugal, 985; from Luxemburg, 511; Turks, 61; Greeks, 40; from the West Indies, 1,298; from Mexico and Central America, 221; from South America, 355; from British North America, 588; from Australia, 39; from Africa, 45; from Asia, 262 (of whom 200 were Chinese). The destination of 287,729 immigrants, or nearly 90 per cent of the whole number that landed at the port, is given as follows:

TO EASTERN AND MIDDLE STATES.

Maine.....	230	New Hampshire.....	244
Vermont.....	184	Massachusetts.....	11,503
Rhode Island.....	2,805	Connecticut.....	6,187
New York.....	137,561	New Jersey.....	11,046
Pennsylvania.....	31,104	Delaware.....	127
Maryland.....	1,626	District of Columbia..	286

TO THE GREAT WEST.

Ohio.....	13,869	Indiana.....	3,537
Illinois.....	32,641	Michigan.....	11,303
Missouri.....	4,347	Kansas.....	8,546
Minnesota.....	12,640	Iowa.....	7,649
Wisconsin.....	9,347	Nebraska.....	4,237
Colorado.....	1,191		

TO SOUTHERN STATES.

Kentucky.....	735	Arkansas.....	604
Tennessee.....	242	West Virginia.....	401
Virginia.....	242	North Carolina.....	86
South Carolina.....	108	Georgia.....	184
Alabama.....	79	Florida.....	44
Mississippi.....	132	Louisiana.....	175
Texas.....	1,012		

* Includes those who had not decided where to settle.

TO PACIFIC STATES AND TERRITORIES.

California.....	2,950	Oregon.....	140
Nevada.....	164	Utah.....	1,795
New Mexico.....	22	Montana.....	84
Dakota.....	1,416	Idaho.....	32
Washington.....	37	Arizona.....	7
Wyoming.....	99	Indian Territory.....	26

THROUGH NEW YORK TO OTHER COUNTRIES.

Canada.....	1,627	British Columbia.....	18
Nova Scotia.....	27	New Brunswick.....	10
Manitoba.....	23	South America.....	51
Mexico.....	32	Cuba.....	13
Sandwich Islands.....	14	Central America.....	11
West Indies.....	12	Australia.....	5

New York continues to be the most important port of arrival for immigrants. Between 1847 and 1880 it received 6,184,396, or more than 80 per cent of all who came to the country. The arrivals at the several ports from 1871 to 1880, inclusive, were as follows: *Atlantic coast ports*: New York, 1,712,331; Boston, 198,259; Baltimore, 94,453; Philadelphia, 66,436; Passamaquoddy, Maine, 34,861; Portland, 20,620; twelve other ports north of Cape Henry, 1,547; total for the Atlantic ports north of Cape Henry, 2,743,432. *Gulf ports*: New Orleans, 33,953; Key West, 9,655; Galveston, 3,475; total for all ports from Cape Henry to the Rio Grande, 49,901. *Lake ports*: Fifteen lake ports, from Champlain to Duluth, 485,025. The most important of the lake ports, and the second most important port for immigration in the country, is Huron, Michigan, which received in ten years 437,068 British Americans (including, perhaps, a few thousands who came from Europe by way of the St. Lawrence) seeking homes in the Northwestern States. *Pacific ports*: San Francisco, 133,932 (122,436 of whom were from China); ports of Oregon, 11,339; Alaska, 113; total Pacific ports, 2,812,177. Whole number of arrivals during the ten years 1871-1880, 2,812,177. Of these, 436,871 were from Ireland and 781,191 from Germany.

A marked feature in the immigration of recent years is the current from the British North American provinces, which has reached such proportions as to have attracted the serious attention of the authorities of the Dominion. The number of arrivals in 1880 was 112,712 from the Dominion of Canada and 139,761 from all the British Provinces, and 881,000 persons are shown by the records to have come to the United States from British-American provinces since 1820, besides whom many thousands must have come over the border without being recorded. The immigration from Russia is made up to a considerable extent of Mennonites from the Crimea and other southern parts of the empire, who, having removed from the German states in obedience to their principles of non-resistance to escape compulsory military service, and under the inducement of an offer of special privileges if they would settle in Russia, are now removing thence on account of the withdrawal of those privileges. Jewish immigrants are beginning to arrive from Russia in considerable numbers, having been driv-

en away by the persecutions and indignities that have been inflicted upon them during the past year. Fifteen hundred of these people had arrived at the end of December, 1881. They receive care and attention from their coreligionists in Europe and America through their regularly organized societies. The immigrants are stated, by an American committee appointed for their care, to comprise men of all professions, trades, and pursuits, with their families, and to be largely composed of people likely, in the end, to prove valuable to the country. An immigrant aid society has been formed in the city of New York for the purpose of providing for the wants of the immigrants as they arrive and of directing them to suitable places of residence, and has appointed agents to visit Europe and raise among the Jews there—who are represented as ready to contribute—funds for establishing colonies. The immigrants who have already arrived have been dispatched to points in the West and Southwest, and an agricultural colony has been established on Sicily Island, Catahoula Parish, Louisiana.

The Chinese come chiefly to the Pacific slope, and for the most part through the port of San Francisco. Consequently, it is in the Pacific States alone that the Chinese have become so numerous as to attract special attention. In five of these States their number has increased in ten years as follows: California, from 49,310 in 1870 to 75,025 in 1880; Oregon, from 3,330 in 1870 to 9,506 in 1880; Nevada, from 3,152 in 1870 to 5,420 in 1880; Washington, from 234 in 1870 to 3,182 in 1880; and Arizona, from 20 in 1870 to 1,632 in 1880; and it has decreased in Montana from 1,949 in 1870 to 1,737 in 1880, and in Idaho from 4,274 in 1870 to 3,378 in 1880. The whole number of Chinese in the United States increased from 63,254 in 1870 to 105,679 in 1880.

The following table shows the whole number of immigrants that arrived in the United States between 1783 and 1880.

IMMIGRANTS FROM 1783 TO 1880.

Chief nationalities.	Number.
England.....	953,898
Ireland.....	3,137,364
Scotland.....	172,187
Wales.....	19,063
Not specified.....	560,242

Total British Islands..... 4,842,757
[The "not specified" includes the 250,000 arriving before 1820.]

CONTINENTAL EUROPE.

Germany and Austria.....	3,159,072
Scandinavia.....	420,369
France.....	818,013
Switzerland.....	89,815
Italy.....	79,098
Holland and Belgium.....	72,138
Russia.....	42,832
Spain and Portugal.....	37,802
Poland.....	17,008
Hungary.....	10,448
Other countries and not specified.....	403,410

Total..... 4,650,055
British Islands..... 4,342,757
All Europe..... 9,492,812

All Europe.....	9,492,812
Asia (eight tenths Chinese).....	233,876
British America.....	703,703
West Indies.....	64,553
Mexico.....	25,224
Central and South America.....	19,099
Africa.....	1,554
Pacific islands and not specified.....	75,230
Grand total.....	10,616,056

To these might be added many thousand persons who come to the United States from Canada and Mexico, of whom no record is made; and these, with those who arrived during 1881, would swell the whole number to between eleven and twelve millions.

The Commissioners of Emigration of the Port of New York have established a complete system of rules for the care of immigrants arriving there. Spacious quarters for their reception and temporary accommodation are provided at Castle Garden. When a passenger steamer arrives from a foreign port, a boarding officer visits her, examines into the sanitary condition of the vessel and passengers, hears complaints, ascertains if proper care has been taken of the passengers during the voyage, and makes his report to the Superintendent at Castle Garden. The landing agent, while the passengers are still on board, gives checks for the baggage of immigrants, and it is taken to the Garden, where it is insured against fire and other damage, and remains until it is claimed by its owners. Many of the immigrants of later years have been of the middling and well-to-do classes, and fully three fourths of them have come provided with prepaid tickets to their places of destination in distant States. These need but little attention, except for the examination as to their health, and to see that they are directed aright. Each person on landing at Castle Garden undergoes a medical examination, when, if he proves to be permanently diseased, blind, crippled, lunatic, or a pauper, the ship-owners are obliged to give bonds to insure the State against expense on his account or take him back. If he is ill, he is given medical treatment or sent to a hospital. To save the immigrants the trouble and perils of wandering about in a strange city, a restaurant, cooking-stoves, and wash-rooms, are provided for them; authorized brokers are appointed to make exchanges for them and cash their notes and drafts, at the ruling rates of the day in Wall Street; a telegraph-office and a post-office are furnished, and each person is asked if he expects to receive or wishes to forward correspondence; the principal railroads are allowed to have ticket-offices in the Garden; a baggage express delivers city baggage at low rates; and the Custom-House has a bureau in the Garden to facilitate the clearance of the baggage of immigrants. Food and lodging are temporarily supplied to the destitute, and every kind of physical suffering is provided for at the hospitals, to which the immigrants have access. A Bureau of Information in 1880 enabled 26,612 persons to communicate with resident friends without trouble

or expense. A number of licensed boarding-house keepers, who are admitted under careful regulations, sheltered 46,612 persons at prices approved by the Commissioners. The Labor Bureau, under the direction of the Irish and German Employment Societies, provided places for 28,806 men and boys and 10,505 women and girls. Several of the religious denominations have agencies at Castle Garden, where assistance is given to persons of their faith, and others who may apply.

INABILITY OR DISABILITY OF THE PRESIDENT. The long illness of President Garfield, after the assassin's shot, on the 2d of July, to his death, on the 19th of September, gave rise, for the first time in the history of the American Republic, to a discussion of the scope and meaning of the constitutional provision for the devolution of the powers and duties of the executive office upon the Vice-President, in case of the inability of the President to discharge the same. As no official action was taken involving a determination of the question, the discussion was confined chiefly to the public journals and to informal expressions of opinion by public men. The Constitution of the United States provides that, "in case of the removal of the President from office, his death, resignation, or inability to discharge the powers and duties of the said office, the same shall devolve on the Vice-President; and the Congress may, by law, provide for the case of removal, death, resignation, or inability, both of the President and Vice-President, declaring what officer shall then act as President; and such officer shall act accordingly until the disability be removed or a President shall be elected." Among the incidental points discussed were the meaning of the phrases "devolve upon the Vice-President," and "act as President," and the possible difference between "inability" and "disability." In the latter clause of the section quoted, the term "inability" is obviously intended to cover elliptically the meaning of the preceding phrase, "inability to discharge the powers and duties of the said office," and "disability" appears to have the same meaning, inasmuch as the other causes for providing for the discharge of executive duties are such as would produce an actual vacancy in the office, and could not be "removed." The use of the term "disability" is also to be noted in the twelfth amendment of the Constitution, in which it is provided that, in case no President has been elected by the end of the term of an actual incumbent, "the Vice-President shall *act as President*, as in the case of the death or other constitutional *disability* of the President." This provision of the amendment, which was adopted in 1804, while many of the original framers of the Constitution were still in public life, seems also to indicate that they made no distinction between the Vice-President *acting as President* and having the powers and duties of the executive office *devolve* upon him.

The question has never been authoritatively settled whether the Vice-President was intended to become President, or only to "act as President," retaining his former title even when an actual vacancy takes place. The first case occurred on the death of Mr. Harrison in 1841, when the question arose in Congress whether, in appointing a committee to inform Mr. Tyler of the organization of the two Houses, that officer should be styled the "President" or the "Vice-President now exercising the office of President." Mr. Wise, of Virginia, stated that "he knew the fact that the present incumbent would claim the position that he was by the Constitution, by election, and by the act of God, President of the United States." Little consideration was given to the question involved, and Congress simply decided to give the title of President to the person exercising the duties of the office, in its communications with him, Mr. Calhoun taking occasion to remark that as none of the circumstances existed which might arise in the case of inability, "there could be no special occasion for discussing the subject." This precedent can hardly be said to have settled any constitutional principle, or definitely determined that the Vice-President becomes President, when the executive office falls vacant by the death of the incumbent; but it established the practice of calling him the President, which has since been followed by Congress and by the country. There has never been any case of removal or resignation, and, as already intimated, no question of the meaning or effect of "inability" had ever arisen previous to the shooting of General Garfield. The question then was, whether a temporary incapacity of the President for performing the functions of his office created such an exigency as was contemplated by the Constitution, and whether it would be proper for the Vice-President to assume their performance. If such was the case, what power was to determine what constituted inability and when it existed? By what process was that determination to be made? If constitutional inability was established, would the Vice-President then become President, or act as President for the remainder of the term, or would he act only temporarily, while the inability continued? If the latter, how was it to be determined that the inability was at an end, and by what process was the Vice-President to be called to the performance of executive duties, and again relegated to his former place and functions? None of these questions were explicitly answered by the Constitution, and none of them had ever been dealt with by the national judiciary or Legislature. It was even a question whether Congress had any power to legislate on the subject. It was claimed, on the one hand, that it had no such power, inasmuch as it was not actually conferred by the section of the Constitution relating to the succession. It was even contended by some that the grant of power to act,

in case of the "inability" of both President and Vice-President, must be taken as indicating that no corresponding power could be exercised in case of the "inability" of the President alone, in regard to which no such grant was made. On the other hand, it was maintained that the general grant of authority to make the laws necessary to execute all powers provided for in the Constitution was sufficient to cover the case.

As no imperative necessity arose for the exercise of executive duties during President Garfield's illness, and as no action was taken for the determination of the questions raised, it will only be possible to quote some of the more important opinions that were made public in the course of the discussion. The Hon. R. W. Thompson, of Indiana, gave it as his opinion that in case of mental incompetency the fact could be established by judicial inquiry, and on proper notification the Vice-President would act temporarily or permanently as the occasion might require. In the case of physical inability the President himself would be competent to decide as to the necessity, and could cause the Vice-President to be notified, when it would be his duty to perform such executive acts as were called for until the President was in a condition to resume the discharge of his duties. The Hon. Thomas A. Hendricks gave it as his opinion that Congress had no power to define presidential disability, but, if the fact were established beyond doubt by force of circumstances, it would be entirely proper for the Cabinet to notify the Vice-President, whereupon he would assume the performance of executive duties while the inability of the President continued. The Hon. Lyman Trumbull, of Illinois, in a carefully prepared paper, took the ground that in no case did the Vice-President become President, but in certain defined exigencies he was "to act as President" or "exercise the office of President." The practice of conceding the title in case of a vacancy settled no constitutional principle. In his view no distinction existed between the position of the Vice-President when a vacancy had been caused and when inability existed, and, if in the latter case he became President, then there would be two Presidents. Inability might be temporary, in which case the Vice-President would act only while it lasted. Mr. Trumbull expressed the opinion that there was no tribunal that could determine the question of inability, and no occasion for any. He did not favor any legislation on the subject. It was his belief that the existence of the fact should be beyond question and generally admitted as a matter of public notoriety, as in case of the death of the President, and then there would be no difficulty. The Vice-President would assume the performance of all necessary executive acts without objection, and would cease to do so when the necessity ceased to exist. "It is questionable," he said, "whether any law can be framed placing

this question of inability in a better position than the Constitution has left it. The degree of proof to satisfy the public mind can not be previously defined. Every citizen of the republic constitutes a part of the law-making power. Hence the respect of all for the law, and their readiness at all times to uphold and defend it. They take notice of public matters affecting the government of the country, of who is President, of his death or inability, and of the accession of another to the duties of President. When this accession follows the notorious and unquestioned inability of the President, they will be as ready to uphold the Vice-President in the discharge of the duties of the presidential office as if he had been elected to it. Any Vice-President who should assume those duties in a doubtful case, when the exigency did not unmistakably require it, would be treated as a usurper by all patriotic citizens. Peaceful successions to the presidency, under our system of government, must always depend on a sound public opinion, supported by the good sense and the intelligence of the people; and there it may be safest to leave them."

Judge T. M. Cooley, of the University of Michigan, a well-known writer on constitutional law, took a somewhat different view of the subject. He agreed that the inability should not be of a doubtful or transitory character, but such as made it imperatively necessary that some one should act in place of the President. He had no doubt that it might be of limited duration, and that in such case the action of the substitute should cease when the necessity for it was at an end; but he was of opinion that there should be some authoritative tribunal to determine when the necessity existed and when it ceased to exist. In his opinion, Congress was the proper tribunal to decide upon this question, and one that had sufficient power under the Constitution to provide for any such emergency. This, it could do by dealing with a particular case when it arose and called for action, or by a general law applying to all cases. After discussing the question of the general authority of Congress over the subject, he concluded: "It may be added that, while Congress could provide for such cases by general law, it could have no less power to provide by special law, and that almost inevitably every case would be peculiar and require to be dealt with specially. We conclude, therefore, that an inability, in the constitutional sense, is one that not only exists presently, but, in the opinion of Congress, is of such a nature and probable continuance that it causes or threatens inconvenience to public affairs. It is possible for a case to arise so plain, and so unmistakably determined in the public judgment, that public opinion, with unanimous concurrence, would summon the Vice-President to act. But, though this would make him acting President *de facto*, he would become acting President *de jure* only

after solemn recognition in some form by Congress."

General B. F. Butler agreed with the writers already mentioned in the opinion that presidential inability might be other than permanent in its character, and that in such case the duties of the office devolved upon the Vice-President only during its continuance; but he took the ground that it was for the Vice-President himself to determine when the exigency existed. He thought the Constitution was sufficiently explicit and its meaning sufficiently plain, and believed that there was neither authority nor necessity for legislation on the subject. He said: "It may be taken as axiomatic that when the Constitution imposes a duty on any officer, to be done by him, he must be the sole judge when and how to do that duty, subject only to his responsibility to the people, and to the risk of impeachment if he act improperly or corruptly. As we have seen, the Constitution devolves, in a certain case, the discharge of the duties of the President upon the Vice-President. He alone must judge, under the grave responsibility of his position, when his duties begin, as he must determine how and in what manner he will execute them." In answer to the objection that the Vice-President might be tempted to seize upon the power of the executive office without sufficient warrant, Mr. Butler said: "The fear of danger implied in this proposition arises from another error into which some who have discussed the question have fallen, and that is that the Vice-President can not discharge the duties of the presidential office without becoming President, for which proposition there certainly is no constitutional authority." After discussing the constitutional provisions applicable to the case, he continued: "This interpretation ought to allay the fears of all good people as to the temptation of a Vice-President, in a doubtful case, to insist upon the discharge of the duties of the President. A case can hardly be imagined of inability which would not be temporary, and the Vice-President would have no temptation to thrust himself into the discharge of the duties of the office of President, wherein he could do nothing by possibility that would be permanent, and without surety that his powers to discharge those duties would last a single day. He might nominate a few officers, but if he had thrust himself into the discharge of the presidential duties wrongfully, the Senate would never confirm his nominations. He might approve laws, but the Houses of Congress will never send any acts to a Vice-President for approval who should decide the question of the inability of the President in a manner to shock the sense of the people."

Professor Theodore W. Dwight, of the Columbia Law School, in New York city, took quite a different view of the subject from that of any of these writers. He maintained that "inability" and "disability" are equivalent expressions, having a technical meaning in consti-

tutional law, to be determined by the ordinary rules of interpretation. This meaning he held to be a mental incapacity for the discharge of official duties. This must be determined by a proper judicial proceeding upon competent evidence. If the fact of inability is established, Professor Dwight holds that the effect must be to devolve the office of President upon the Vice-President, to be exercised by him until the end of the term. The President is as completely displaced as if he had died, or resigned, or been removed from office. His conclusions are summed up as follows: "The 'inability' of the Constitution is strict intellectual incapacity. This condition of mind must be established by evidence under forms of law, which Congress is competent to prescribe. When such inability is properly established in the case of the President, his office devolves upon the Vice-President, who thereupon becomes President, retaining the office until the end of the four years' term, unless a constitutional disability occurs in his case."

Another question that arose as the result of President Garfield's illness related to the order of succession in case of the disability of both President and Vice-President. The Constitution distinctly left it for Congress to provide for such an emergency, and an act was passed, which became law on the 1st of March, 1792, declaring that in such case "the President of the Senate *pro tempore*, or, if there is none, then the Speaker of the House of Representatives for the time being, shall act as President until the disability is removed or a President elected." In the revision of the statutes, the phrase "*pro tempore*" has been omitted. It has been a general custom in the Senate, before the end of a session, for the Vice-President to retire from the chair, in order that a President *pro tempore* may be chosen; but this was not done by Mr. Arthur at the special session which adjourned in May. Hence, no such officer existed during the illness or at the time of the death of General Garfield. As the Forty-sixth Congress expired on the 4th of March, and the first regular session of the Forty-seventh did not begin until December, there had been no organization of the House of Representatives, and there was no Speaker. This state of things naturally brought up the question of the propriety of the legislation of 1792, which had never before attracted special attention. It was contended that the line of succession to the Executive chair should not fall to "officers" who might have no existence for months together. Serious objection was also raised to placing the presiding officers of the legislative department of the government in that line. More than that, it was claimed that they were not officers of the government within the meaning of the Constitution. When in 1798 an attempt was made to impeach Senator Blount, of Tennessee, it was decided that a Senator was not an officer of the United States subject to impeachment. As "all civil officers

of the United States" are subject to that process, it has always been understood that this decision established the principle that Senators, and, by parity of reasoning, members of the House of Representatives, are not officers of the United States. If such is the case, it is said, choosing any one of them to preside over the deliberations of the body of which he is a member does not make him such an officer. Hence the argument that the law of 1792 is unconstitutional, as well as inexpedient. It is worthy of note that that law was passed with difficulty and by a close vote, the same objections being made at the time. The rival proposition that the Secretary of State be designated as the officer to act as President in case of the disability or removal of both President and Vice-President, is reputed to have been defeated for political reasons, Mr. Jefferson being at that time Secretary of State.

President Arthur, in his first annual message, called attention to the questions which had arisen in regard to presidential inability or disability, and commended them to the "early and thoughtful consideration" of Congress. The subject was promptly taken up in the Senate, the following resolution being offered by Mr. Beck, of Kentucky, on the second day of the session:

Whereas, The Constitution of the United States provides that, in case of the removal of the President from office, or of his death, resignation, or inability to discharge the duties of the said office, the same shall devolve on the Vice-President, and that Congress may by law provide for the case of removal, death, resignation or inability, both of the President and Vice-President, declaring what officer shall act then as President, and such officer shall act accordingly until the disability be removed, or a President shall be elected. And, whereas, it greatly concerns the peace of the country, and perhaps the very existence of the government, that the laws enacted by Congress in pursuance of that provision of the Constitution should be so comprehensive as to provide for every vacancy that can possibly occur in the office of President, and so clear as to admit of no controversy nor any question of disputed succession to that high office: To the end, therefore, that all doubts or defects which may exist in our present laws on this subject may be remedied and future controversy prevented, be it

Resolved by the Senate, That the Committee on the Judiciary be instructed to examine into said provisions of the Constitution and into the laws passed by Congress to carry them into effect, and inquire whether the provisions of said laws are constitutional, proper, and adequate in all respects to their purpose and end, or whether any further legislation be necessary or proper, and to report thereon by bill or otherwise.

A resolution of similar import was presented by Mr. Maxey, of Texas, and the following bill was introduced by Mr. Garland, of Arkansas:

Be it enacted, etc., That section 146, Title III, of the Revised Statutes is hereby repealed.

SECTION 2. In case of the removal, death, resignation, or inability of both the President and Vice-President of the United States, the Secretary of State for the time being, or, if there be no Secretary of State, then the Secretary of the Treasury for the time being, or, if there be neither Secretary of State nor Secretary of the Treasury, then the Secretary of War for the time being, shall act as President until the disability be removed or a President, be elected in the manner and

at the time provided in the Constitution and laws, or, in case there be no occasion under the law for an election, until the existing term of office of the President so removed, resigned, dead, or disabled, shall have expired.

There was a brief debate on Mr. Beck's resolution before the holiday recess, but the general consideration of the subject went over to the part of the session belonging to the year 1882.

INDIA. A British viceroyalty in Asia. Viceroy and Governor-General of Bengal, Marquis of Ripon, appointed in 1880. Commander-in-chief of the army, General Sir D. M. Stewart. The Executive and Legislative Council is composed as follows: the Viceroy, Commander-in-chief, Whitley Stokes, Sir A. Rivers Thompson, James Gibbs, Major Evelyn Baring, and Major-General T. F. Wilson. Lieutenant-governors of the provinces are honorary members of the Council, when it meets in their respective provinces. Government Secretaries: for the Interior, C. E. Bernhardt; for the Finances, R. C. Chapman; for Foreign Affairs, Sir A. E. Lyell; for Military Affairs, Colonel G. T. Chesney; for Public Works, Colonel A. Fraser; for Legislative Affairs, D. Fitzpatrick. The governors of the different provinces are as follows: Bengal, Lieutenant-Governor Sir A. Eaden; Northwestern Provinces, Lieutenant-Governor Sir G. E. W. Couper, Bart.; Punjab, Lieutenant-Governor Sir R. E. Egerton; Central Provinces, Chief Commissioner J. H. Morris; British Burmah, Chief Commissioner Sir C. N. Atchison; Madras, Governor-General Rt. Hon. M. E. Grant-Duff; Bombay, Governor-General Sir James Fergusson.

The area of British India and the population according to the census of 1871-'72 are as follows:

PRESIDENCIES AND PROVINCES.	Square miles.	Population.
Presidency of Bengal:		
Lower Bengal.....	156,200	60,502,897
Assam.....	55,384	4,162,019
Northwest Provinces.....	105,395	42,001,436
Punjab.....	104,975	17,611,498
Central Provinces.....	84,203	8,201,519
British Burmah.....	88,556	2,747,148
Ajmeer and Mairwarra.....	2,711	896,889
Berar.....	17,711	2,227,654
Coorg.....	2,060	163,312
Presidency of Madras.....	138,856	31,672,613
“ of Bombay.....	124,102	16,349,206
Under British administration..	880,093	186,041,191
F feudatory states.....	604,590	54,211,158
Total.....	1,484,683	240,252,349

The preliminary reports on the census of 1881, as far as published, are as follows: Lower Bengal, 68,750,747; Northwest Provinces (exclusive of Oude), 32,699,436; Oude, 11,407,625; Punjab, 22,640,463; Central Provinces, 11,098,601; British Burmah, 3,704,253; Ajmeer, 455,944; Mysore, 4,186,499; Coorg, 178,283; Presidency of Bombay, 14,025,593; Sind, 2,404,934; Baroda, 2,154,469; Rajpootana, 10,881,166.

The population of the principal cities, according to the census of 1881, is as follows:

Calcutta.....	688,458	Meyroot.....	60,882
Bombay.....	753,000	Shahjehanpore.....	77,533
Madras.....	405,948	Mirzapore.....	52,495
Lucknow.....	261,481	Moradabad.....	67,158
Benares.....	207,670	Allypore.....	62,451
Agra.....	137,908	Goruckpore.....	58,599
Allahabad.....	150,373	Seharunpore.....	58,742
Cawnpore.....	119,608	Muttra.....	54,985
Bareilly.....	101,688	Maulmain.....	53,080
Rangoon.....	132,004	Hyderabad.....	263,005

The emigration of coolies in 1878 was as follows:

From Calcutta.....	18,488
“ Madras.....	8,890
“ French ports.....	2,804
Total.....	25,182

The destination of these coolies was as follows.

British colonies.....	19,693
French colonies.....	5,165
Dutch Guiana.....	824
Total.....	25,182

The gross receipts were estimated in the budget for 1881-'82 at £70,981,000, the ordinary expenditures at £70,126,000, and the extraordinary expenditures at £4,973,000, making the total expenditure £75,099,000.

The public debt on March 31, 1878, amounted to £146,684,770.

The closed accounts of Indian finances for the year 1879-'80 show a revenue of £68,484,666 and an expenditure of £69,667,615, leaving a deficit of £1,182,949, as against an estimated deficit of £1,355,000 in the budget estimate of the year before. The revenue exceeded the estimate by £3,922,000, and the expenditure by £3,750,000. The receipts from opium exceeded the estimate by £1,900,000, and there was also a considerable improvement in the returns from public works. The unexpected increase in expenditures was owing to war expenses and frontier railway construction in connection with the Afghan war. The extraordinary discrepancies between the estimates of the war expenditures and the actual returns were ascribed to inaudited issues of money from the local treasuries to the military department, which the negligent military accountants failed to notice.

In the budget estimates for the year 1880-'81, made the year before, the revenue was set down at £66,746,000 and the expenditures at £66,329,000, giving an estimated surplus of £417,000. The regular estimates for that year make the revenue £70,768,000 and the expenditure £77,037,000, showing a deficit of £6,269,000. This deficit was, like that of the previous year, due to war expenditures. There was an increase of no less than £1,218,000 in the opium revenue, of £309,000 in excise, and of £351,000 in customs. The land revenue showed a falling off of £295,000, which is expected to be recovered in the following year, as the officials neglected to make collections, being so occupied with the census.

The budget estimate for 1881-'82 reckons the revenue at £70,981,000 and the expenditures at £70,126,000, giving an estimated sur-

plus of £850,000. If the £3,000,000 of imperial aid were not reckoned in, the estimate would show a large deficit. The fluctuations in the opium revenue, the losses by exchange, and the uncertainty of the harvests, are three elements which render the preliminary estimates of Indian finances exceedingly unreliable. Minister Baring has estimated the opium revenue for 1881-'82 at a low figure, in order to be on the safe side, and prevent further injury to Indian credit by the disclosure of an unexpected deficit. The customs revenue he also estimates at a low rate, and calculates that the net loss by exchange will be about £3,063,000. A falling off in the opium revenue of £2,000,000 is allowed for in the estimate. An improvement of £687,000 is expected in the land revenue. The estimated surplus of 1881-'82 is obtained by including £3,000,000 of the imperial contribution to the expenses of the war, and the deficit of 1880-'81 is lessened by the amount of £2,000,000 from the same source. On the other side, the annual reserve of £1,500,000 for protection against famine is charged against the revenue in 1881-'82 for the first time. The late Parliament voted an advance of £2,000,000 to the Indian Government without interest to aid it in tiding over the financial difficulty resulting from the war. In 1881 Gladstone carried a motion in Parliament, making this loan a gift, and granting the further aid of £3,000,000, payable in annual installments of £500,000. The whole £5,000,000 have been entered in the Indian financial statements at once.

In the beginning of 1880 Sir John Strachey estimated the total cost of the Afghan war at less than £10,000,000. Every succeeding estimate swelled the amount, and when the accounts were finally closed the actual expenses of the war footed up £23,412,000. Of this, £4,465,000 is chargeable to frontier railways and military railways in the Punjab. Even with the £5,000,000 of aid from the British Treasury the Afghan war has swallowed up nearly the entire famine fund, £4,035,309 of the famine receipts having been diverted, and £9,523,574 of surplus revenue, besides taking from the cash balances, that is, adding to the public debt, the sum of £4,513,470.

The scheme of laying aside £1,500,000 annually for provision against future famines was determined upon during the incumbency of Sir John Strachey, and was one of the results of the famine investigation by a parliamentary commission. As stated above, the funds reserved for this purpose for the first four years have been applied to the war expenses. The specified sum, £1,500,000 per annum, will be reserved in the future and included in each year's expenditures. One half of the famine insurance reserve is to be employed in constructing protective works, and one half accumulates into a fund applied in the reduction of the sterling debt. The protective works, which it is proposed to construct first, are the

Niru Canal, in Bombay; a railway from Rewaree to Hansee, in the Punjab; the completion of the line from Bellary to Hospett, in Madras; a branch line from Hotgi, near Shemlapore, to Bijajore; and the Betwa Canal, in Buudeleund. The famine insurance fund has been so far dependent only on the license-tax, which diminishes as the public works become profitable. The present plan is to take the specified amount out of the general revenue each year.

Major Baring in his budget minute shows that the finances of India rest at present on a sound basis, and that the revenue considerably exceeds the expenditure, eliminating the temporary drain of the Afghan war. The prospects for the future are, however, far less satisfactory; for, while the Secretary of State's bills are gradually increasing in amount, the land-taxes, which are the main source of revenue, are stationary, and the opium revenue is precarious. The reduction of the military expenditure is considered imperative in order to guard against the period of embarrassment. By encouraging private enterprise, the Government may improve its own financial condition in promoting the general prosperity. In this direction, it is recommended that the Government should supply its wants by buying in the local markets. This was lately done in the case of harness and accoutrements for the army, and the work the native artisans turned out was neat and durable. The Government has also adopted the policy of seeking to establish commercial relations with foreign countries. Aid was granted to a syndicate which undertook to introduce Indian tea into the Australian and American markets. It is proposed to encourage jute and cotton exports to the British colonies in the same way. The encouragement of railway construction is also urged by the Finance Minister. The policy of the late Government was to have the railway system constructed and maintained by the state. The Liberal administration is desirous that the system should be completed as far as possible by private enterprise, and hopes to induce private companies to undertake the construction of new lines without the Government guarantee by grants of land and subsidies, with the right reserved to the state of acquiring them by purchase after a certain time. One company has been formed, under the auspices of the Rothschilds, to build a road from Calcutta toward Jessore and Koolna. The Government have made an arrangement with the Punjab Railway Company by which the guarantee is only four per cent, and only for the period of construction, and the railroad is to become the property of the state after a period of ninety-nine years.

The Government expended in the last three years £10,306,273 in the construction of productive public works. The total cost of the productive public works in four years was £26,853,722, and the total receipts £27,626,-

341. The total expenditure from the beginning on the different kinds of public works denominated productive is now very nearly remunerative, the net receipts for the three years past falling but £772,000 short of the full interest on the capital invested. The amount to be expended annually on such work is limited to £2,500,000, which is admitted to be inadequate to the wants of India, but which the Secretary of State for India, Lord Hartington, upholds, hoping that the wants will be supplied through private enterprise. The East Indian Railway, which has lately been acquired by the Government, is excluded from the restriction. The actual expenditures for 1881-'82 from borrowed capital are £2,608,000 on the state works and £860,000 on the East Indian Railway, besides £2,159,000 in sanctioned additions to guaranteed railways; while the disbursements from the revenue for the net losses on state and guaranteed railways were £417,000, and on the construction of works of the same character, but which are not classed as "productive," £300,000 on navigation and irrigation, £750,000 on famine-relief works, and £790,000 on frontier railways. The interest charge on guaranteed and state railways, paid out of the revenue, has diminished in ten years from £2,000,000 until the point is reached where these works promise to become a source of revenue.

A loan of three crores of rupees was subscribed for in India at an average premium of over five per cent, although the interest is only four per cent per annum. A three and a half per cent loan was also raised in London on equally favorable terms in the early part of the year.

The decentralization policy which has been adopted, since 1877 more especially, has had a good effect on the financial administration of some of the provinces, but has introduced an element of confusion into the Imperial accounts, as was seen in the Afghan war estimates. Measures are being taken to have the local finances better systematized.

The census of India was taken in February. The total population is found to be 252,541,210, of whom, approximately, 123,211,327 are males and 118,166,371 females. The increase since the last decennial census is 12,788,565. The returns for the individual provinces are as follows: Bengal, 68,829,920; Assam, 4,815,157; Madras, 30,839,181; Bombay, 14,025,593; Siude, 2,404,934; Northwest Provinces, 33,445,111; Oude, 11,407,625; Rajpootana, 10,881,166; Punjab, 22,647,542; Central Provinces, 11,505,149; Berar, 2,670,982; Burmah, 3,707,646; Mysore, 4,186,399; Coorg, 178,283; Ajmere, 453,075; Baroda, 2,154,469; Travancore, 2,401,158; and Cochin, 600,278. The provinces showing the greatest increase are—Burmah, 35 per cent; the Central Provinces, 25 per cent; Berar, 20 per cent; and Assam, 19 per cent. The only provinces showing a decrease are those depopulated by the

famine—Bombay, 2 per cent; Mysore, 17 per cent; and Madras, 2 per cent. The corrected returns of the population of Bombay show a decrease of about 2 per cent since 1873, whereas in ordinary times it increases in about that proportion. Bengal increased 9 per cent in the ten years, but Calcutta remained almost stationary, the population of the city and suburbs being 683,329, whereas in 1876 it was 686,684.

The results of the census were looked forward to with interest for the light it would cast upon the over-population theory of famines. The last famine affected a population of 58,000,000 souls and an area of 257,000 square miles, and was unprecedented in severity, duration, and extent. The mortality in the famine-stricken districts was sufficient to cause an actual decrease in the population of all of them since 1871. There have occurred thirty-six years of scarcity and twenty famines, seven of which were intense, in the last one hundred years. The mortality from this cause is computed at 10,000,000 within thirty years, this being less, however, than the mortality from cholera and fever. The main remedies proposed against the devastations of famine are to diversify the occupations of the people, and to improve the methods of agriculture. The bringing under cultivation of waste lands and the construction of protective works are deemed of secondary importance as far as removing the causes are concerned; although the improvement of the ways of communication embraced in the scheme of famine relief is urgently needed, in order to enable the Government to deal with recurring famines by forwarding supplies to the distressed districts. The whole population of India is employed in agriculture. The stimulation of manufactures by a protective tariff has been tried with encouraging results, but this plan comes into collision at too many points with the interests of British manufacturers to be carried out. Still, though the whole protective system will probably be thrown overboard by the present Government, the era of manufacturing and mining development seems to have commenced in India. The natural resources of India are great and manifold, though the entire industry of the country is now confined to a few agricultural products, grown by the most unskillful and exhaustive methods. The supply of labor is superabundant. There is no accumulated capital in India, but British capital is now attracted to this promising field.

Only about half of the area of India is cultivated, but on the cultivated area there subsists twelve times as many people as would be necessary to keep it in the highest state of cultivation. The system of farming is so rude that an acre of cotton, for example, yields less than one fifth the quantity obtained from an acre in Egypt or the United States, and the quality is so inferior that it brings only half the price. The simplest improvements in the manner of

cultivating the soil would, if carried out over the cultivated area of India, be sufficient to provide abundant stores to support the population through all the droughts and famines, and the locust and rat plagues. New staples have been introduced in the last few years. The jute, tea, and coffee trades together already exceed \$50,000,000 annually. The syndicate which received assistance from the Government for the purpose of extending the tea market, succeeded in introducing Indian tea in America, and in increasing the exports to Australia from 86,628 to 621,128 pounds. Sugar and quinine are other new products, and tobacco, which already competes with American tobacco in Italy. Leather and forest products of various kinds are the materials for newly started trades. The mineral resources of India must soon be brought out by the aid of the railways. There have been gold discoveries within a couple of years, which have led to enormous speculation in London, but their actual value has not yet been determined.

The British rule in India is still a pure military despotism. The feeling of discontent is so deep and general that the Government would be overthrown the moment that the certainty of prompt and terrible retribution were not felt. The military forces are kept constantly on the move to suppress insurrections in all parts of the empire, which would spread like a conflagration except for the summary and relentless vengeance of the British soldiers. To maintain a military establishment sufficient to hold in subjection the whole population and support the costly civil administration by foreigners, who are allowed to reap large fortunes during a brief incumbency out of their emoluments, besides paying an annual tribute to Great Britain, requiring the remittance of \$85,000,000 annually, to meet the Secretary of State's bills, must keep India in a state of perpetual poverty. These causes explain why enormous quantities of food must be exported in years when millions of the people are dying of starvation. In the words of Lord Hartington, "India is a poor country, her people a poor people, her commerce a weak commerce." The total foreign trade is \$624,000,000, which is less than \$2.50 per head of the population, whereas the commerce of Great Britain is over \$100 per head. The Indian imports amount to about \$250,000,000, over three fifths of which come from Great Britain and pay an enforced tribute, necessitated by a commercial policy adopted in the interest of British manufacturers, while the whole commerce must pay the profits of English merchants and ship-owners. The excess of exports, amounting to \$120,000,000, consists of little else than the annual drain to Great Britain. The impoverishment of the people by the extortions of their conquerors has resulted almost in the extinction of the arts of weaving, dyeing, metal-working, etc., which might, in the present development of international com-

merce, be a source of much wealth. There are, however, reasons for expecting a slow improvement in the material condition of the people of India, if no political convulsion intervenes to prevent the effect of causes now working. The English people are more solicitous for the welfare of the Indian subjects since the famine of 1877, and wish their burdens to be lightened by every reform which would not conflict with English mercantile interests. The net-work of railroads which has already been built ought to contribute to the prosperity of the country, not merely by developing its natural resources, but by allowing the military force to be reduced, and thus lightening the taxes; although the Secretary of State expresses himself as unable to see any way of diminishing the military expenditures. The mineral wealth of India has never been at all developed. Coal-mines have been opened within the last twenty years, and in 1879-'80 the wants of half the railroads and factories in the country were supplied. There is a coal-bearing area covering 30,000 square miles. The most promising branch of industry has been cotton-manufacturing. There were in 1880, in Calcutta and Bombay, 53 spinning and weaving mills, employing 1,500,000 spindles. Besides supplying a considerable proportion of the domestic needs, a trade sprang up in fabrics manufactured from native-grown cotton with China, where they were preferred to the spurious products of Lancashire. This trade increased in five years from \$1,000,000 to nearly \$5,000,000. This industry was encouraged by protective duties, but is to be stifled in the interests of Manchester. The late Government by an artful stroke reduced the duty in such a way as to render it useless for revenue purposes, and to plunge the whole trade into confusion, and the present Government is looking for an excuse to throw it off entirely. The exports of cotton manufactures from Great Britain to India are \$105,000,000 in value, being 28 per cent of the total exports of Great Britain, and 70 per cent of the total import trade of India.

The sudden changes in the policy of the Government which are made by every new administration would hinder the progress of any country, and their effect on the conservative temper of the Hindoos is to paralyze the spirit of enterprise and to vex and irritate the people perpetually. Every time there is a change of government in England there is an entire reversal of policy in India in great things and small things. The "forward" policy alternates with the policy of "masterly inactivity," and the bewildering spectacle is next presented of the victorious British army being made, in the words of Lord Beaconsfield, to "cut and run from the scene of a splendid conquest." One administration tears up the broad-gauge railroads to lay down the narrow gauge, another replaces the broad gauge, and the next changes it again. Public works half completed

are abandoned by an incoming administration. The income-tax, which was imposed by Lord Mayo, was removed by Lord Northbrook; Lord Lytton substituted a license-tax; and in the latter part of 1881 all India was thrown into a state of consternation by the rumor that Lord Ripon intended to reimpose the income-tax, in order to abolish the favorite cotton duties. An income-tax is not popular in more enlightened countries, and in India it is regarded as a grinding oppression and a very badge of servitude.

A land reform which is to be carried out in Bengal is similar in its main features to the scheme inaugurated in Ireland. The Bengal land bill, like its Irish counterpart, is an extension of principles which were first laid down in a former bill. Before 1793 the East India Company was the sole proprietor of the whole of the soil. By the land law of that year the land was divided among a number of private persons. The population increased and the competition for land became so great that the landlords drew enormous rents from the land, and the tillers were kept on the verge of starvation. In 1859 the state partially recalled the privileges it had conferred on the proprietors by defining the tenant-rights, which were reserved in vague and ineffective terms in the original law. The tenant-rights in ancient times, before the confiscation of the soil by the East India Company, and while the country was sparsely inhabited, were nearly tantamount to actual ownership. The population has increased rapidly since 1859, and the people are rack-rented in spite of the act of that year. The rent commission, which was appointed in 1879, now proposes to restore, in a great measure, the tenant-rights which existed under native rule. The peasantry are to be given a heritable and assignable right in their holdings, and the landlords to be considerably restricted in their power to augment the rents.

On the 28th of March the state of Mysore, which has been governed by English officials for fifty years, was restored to native rule. The young maharajah, who assumes the sovereignty with the same status as the rulers of the other native states, is still kept in a measure under tutelage, being surrounded by English counselors, who, according to the expectation and understanding, will direct his acts.*

* This prince belongs to the dynasty which founded the kingdom of Mysore in 1565, successfully defending it against the Mohammedan conquerors of a great part of the ancient kingdom of Vijayanagara, of which it was a portion. In the last century Mysore was conquered by Hyder Ali, but when his successor, Tippee, was defeated at Seringapatam by the British, they restored the Hindoo dynasty. The rajah, who was a minor when placed on the throne in 1799, after attaining his majority began a career of vice, cruelty, and oppression, which reduced the country to such a distressful state that, in 1831, Lord William Bentinck interposed. He declined to annex the country, but placed it under a British administration, which ruled in the name of the rajah. Sir Mark Cubbon administered the province until 1861, when it was placed in charge of the Mysore Commission, a large staff of English officials employed, and the government assimilated to that of the British provinces. The old rajah died in 1868. His adopted son was carefully reared under European and native teachers, as the successor to the throne, in which he was installed not long after attaining his majority.

The elements of disorder are always at work in India, and the country is in a constant state of incipient rebellion. Through the ignorant and arrogant application of English methods, which are unsuited to the habits of the people, there is a vast army of homeless and desperate people scattered through the provinces. Whole trades and industries are supplanted by the introduction of new processes or new products, an entire peasantry is evicted because a famine has prevented them from paying their debts, or even through the operation of a new code of law which is unsuited to the character of the people. The disbandment of large numbers of native soldiers after the late war furnished a dangerous addition to the ranks of the idle and discontented. The rigorous enforcement of forest regulations has lately created serious dissatisfaction in the highlands of Western India.

The simple aborigines of the Sonthal country were wrought up into a dangerous state of inquietude by the census. They were worked upon by an ascetic preacher, named Habami, and led to fear that the enumeration boded some terrible act of oppression. Another fanatic, Babajee, leader of the sect of Kherwars,* had still more influence in exciting the natives. The extortions of money-lenders and of landlords were important elements in the Sonthal disturbances, as they are in many of the insurrectionary movements in India. The last resettlement of rents resulted in an increase of 70 per cent on the average, so that the people were naturally suspicious of official operations. Troops were distributed through the country, and the census regulations were considerably modified, precautions which were necessary to prevent a general rising.

A foolish but desperate conspiracy was brought to light in the native state of Kolapore in January. A company of dakoits, or gang-robbers, were proved on their trial to have engaged in the dakoities in order to obtain the means to carry out a plot for the deposition of the maharajah in favor of their leader, Ghode Bawa, who pretended to be the dead prince Chima Sahib, who was deported after the Sepoy rebellion. The conspirators were said to have numbered thousands, and to have been twice prevented by accidental circumstances only from attempting to murder all the Europeans and plunder the city, and were fully prepared

* The Kherwar sect was founded by Bhagrit Mangi in 1875, after the raising of the rents at the last settlement. He gave out that he was sent by Heaven to deliver the Sonthals from British rule, and consequently from grinding rents, which bear heavily on the poverty-stricken husbandmen, and the exactions of the usurers to whom they are driven, and whose hard terms are enforced by the British officials. He was crowned as a king and enshrined as a divinity, exercising an unbounded influence over the simple tribesmen until he was convicted and imprisoned. His disciples continued to prophesy a divine deliverance from the British yoke, and made use of the mistrust excited by the census operations to arouse the people to rebellion. Their leader, Dhubia Gossain Bahajee, was arrested a couple of months before the date of the enumeration, and sent to Lucknow as a state prisoner.

for the final attempt when the leaders were arrested.

The whole of Western India seems to be honeycombed with Brahmanical conspiracies. The Bheels, a savage aboriginal tribe of Meywar, in Rajpootana, were imposed upon by similar stories of the malignant purposes of the census to those which were told to the Sonthals, and exasperated by the rigorous execution of the license law; and in April the tribes gathered, killed a number of officials, and besieged a detachment of Sepoys sent to suppress the riots. In making peace with the Bheels the Government agreed to remit the taxes, and grant all the other demands of the Hill-men.

The high-caste Brahmans are indefatigable conspirators. The Mohammedans do not so often engage in secret intrigue, but are addicted to sullen and moody discontent, and are constantly subject to fanatical influences, and in danger of being wrought up to the point of a general and desperate rebellion. These two classes have during 1881 given the Government in the Punjab and other parts of native and British India much trouble by their quarrels with each other. The Hindoos were in every case the aggressors, and in many places attacked the Mohammedans on the ground that they sold and ate beef, which was an offense to the Brahmans.

The Viceroy's Council, the majority of whom were nominated by the late Government of Great Britain, protested strongly against the evacuation of Candahar. The military authorities also advocated its retention as a valuable strategical base, and the continuance of an open British protectorate over Afghanistan as a bulwark against a Russian advance toward India. The Kuram was given over to the Turi tribe, and the Kaibar to Afridi tribes, subject to regulations, and with pledges of British protection. Candahar was delivered over to a force sent by Abdurrahman from Cabool (see AFGHANISTAN), and Pishin only remained in possession of the British, out of all the occupied territory.

Several border outbreaks occurred during the year, and British outposts all the way from Burmah to Pishin were attacked. A large military expedition marched against the Mahsud section of the Waziri tribe; who plundered Tank and other villages in 1879. An engagement occurred on May 3d, at Shahalum, near Kanigoram, and a skirmishing resistance was offered to the advance of both of the invading columns; but when they reached their destinations, Tank and Bunnoo, most of the chiefs had made their submission.

The Maharajah of Nepaul died in May, after a reign of thirty-four years. His minister, Jung Bahadur, dictated the policy of his whole reign. He was succeeded by his grandson, whose mother is a daughter of Jung Bahadur.

W. P. Adam, who for his services as Liberal "whip" in Parliament during the Conservative rule was given the governorship of Madras,

died in May, in the commencement of a promising career as an Indian administrator, for which he was prepared by his former services as Lord Elphinstone's private secretary in Bombay.

INDIANA. The biennial session of the Legislature of this State commenced on January 6th and closed on April 16th. One of the earliest measures of the Legislature was the election of a Senator in Congress. The nominees were Benjamin Harrison, Isaac P. Gray, and Gilbert De La Matyr. The vote of the Legislature was: Harrison, 81; Gray, 62; De La Matyr, 2. Harrison was elected Senator from March 4, 1881.

In the House, the following joint resolution was passed by a vote of 84 yeas to 1 nay:

Resolved, By the General Assembly of the State of Indiana, that our Senators and Representatives in Congress are hereby respectfully requested to procure the enactment of a law making provision for the soldiers of the Mexican War who have accepted in good faith the results of the war of the rebellion, and whose disabilities have been removed by act of Congress.

The words of this resolution exclude only the President of the Confederate States.

An important tax bill was brought before the Legislature. It had been carefully revised and considered, by the most experienced officials in the State, and some of its provisions may afford valuable suggestions in the preparation of a similar law in other States. One of the principal aims of the framers of the bill was to devise some plan by which to assess and collect taxes upon the large amount of property that has hitherto escaped taxation, and, at the same time, to avoid discrimination against any persons or corporations. The assessment law is so framed that no man can escape listing his property without absolutely and willfully committing perjury, for which he will be liable to heavy penalties. The deputy-assessors, as they go from house to house, have the authority to administer an oath to each person at the time when the return is handed in. It is made an offense, with heavy penalties attached, for a man to convert property into greenbacks just before the time of assessment, unless it can be shown that this was not done for the purpose of avoiding taxation. Then, again, as to Government bonds, it is provided that each person claiming exemption as the possessor of bonds, must give, for the information of the assessor, but not as a matter of public record, the numbers of the bonds held by him; and thus will be prevented the transfer of bonds from one person to another on the day of assessment, so that the same bond frequently does duty for half a dozen members of the same firm, and exempts from taxation property worth thousands of dollars which ought to be taxed. When the numbers of the bonds belonging to a certain person are known, the same bonds can not be used by another person, on the day of assessment, to claim exemption, without ex-

citing suspicion and leading to inquiry. Another clause of the bill will strike the fast-freight and sleeping-car lines, whose property used in the State has hitherto escaped taxation. The railroad company upon whose line the fast-freight cars are in use on the day of assessment are required to list them for taxation, and the same for sleeping-cars; and the act authorizes that the company may deduct the amount of taxes levied from their payments to the transportation lines to whom the cars belong. At present fully two thirds of the cars used in freight service by the railroads doing business in Indiana belong to foreign corporations, and thus escape taxation, although used by the local roads.

The act makes the county treasurer and auditor the county board of equalization, instead of the township assessors, and they are given full power to increase or diminish, add to or take from, the assessment lists any property which may have been omitted or improperly inserted. None but infants and insane persons are exempted from taxation, married women who own property being compelled to list it for taxation the same as men. Churches are still exempted for their actual buildings and ten acres of ground, and schools and colleges are allowed an exemption for a *campus* of not exceeding forty acres. A provision is made for the redemption within thirty days of personal property sold for taxes. Another provision is that if a treasurer has failed to make collection, after attempting the sale of land or property, when three years have elapsed, it becomes the duty of the treasurer to transfer the matter over to the prosecuting attorney of the judicial circuit, who shall proceed to foreclose and sell the property through the agency of the sheriff; and if there is still a failure to obtain a bid for the property equal to the amount of the tax due, and no compromise can be effected, the delinquent is to have the benefit of what is called "a year of jubilee," and the cloud resting upon the title to his property is to be removed.

A whipping-post bill was favorably reported in the House, by the Committee on Rights and Privileges, all dilatory motions were voted down, and it was ordered to be engrossed, but failed to become a law.

It was proposed to extend to the whole State the plan for the improvement of the condition of pauper children, which had been adopted in some of the counties. There are about seven hundred children of sound mind, between the ages of two and sixteen years, in all the county poor-houses. The execution of the plan consists in putting these children under the care of a matron, a woman of good moral character and sound judgment. The children are provided with food and clothing, sent to the public schools, and given home training and education. They are as if in a home. No uniform clothes them. They would not be distinguished from any other children. It is believed that

they would thus be cut off from old associations and be brought under good influence, and would grow up into useful, industrious, and self-supporting citizens. For the maintenance of these children the matron receives not less than twenty-five nor more than thirty cents a day, each. In this home there are never to be more than twenty-five children, as, when the number exceeds that, a second home is provided. As fast as possible the matron finds homes for the children in different parts of the State, thus cutting off their dark past and opening up a hopeful future. The advantages of such county homes are—their cheapness, their simplicity, the home feature about them, the personal care instead of institutional, and the individual training each child receives.

An unsuccessful effort was made to effect the passage of a bill providing for the compulsory education of children. Some features of the bill will illustrate the method adopted to secure this object. The first section was as follows:

SECTION 1. *Be it enacted by the General Assembly of Indiana*, That every parent, guardian, or other person having charge or control of any child between the ages of eight and fourteen years, shall be required to send such child to a common school for at least twelve weeks in each school year, at least six weeks of which shall be consecutive, unless the township trustee, or board of trustees, as the case may be, having control of the school district or sub-district in which such parent, guardian, or person resides, excuse such child from attendance, when it appears to the satisfaction of such trustee or board of trustees that the child's bodily or mental condition is such as to prevent its attendance at school or application to study for the time required, or that its time and labor are essentially necessary for the support of an indigent parent, brother, or sister, or that it is being otherwise furnished with the means of education for a like period of time, or has already acquired branches of learning ordinarily taught in common schools; provided, however, if the common school of the district or sub-district in which such parent, guardian, or person resides is distant two miles from his residence by the nearest traveled road, he shall not be liable to the provisions of this act.

The penalty for a failure to comply with the provisions of the bill is a fine upon the parents or guardians of not less than two dollars, or more than five dollars, for each child not attending school, and the same fine shall be collected for each day that each child is absent. In 1879 the number of school-children enumerated amounted to 708,101, and the number enrolled was 503,892, leaving 204,209 children out of the public schools. In 1880 the enumeration amounted to 703,558, and the number enrolled to 511,283, showing that 194,275 children of school age did not attend the public schools—a gain in attendance, as compared with 1879, of 9,934. It was not known what percentage of these absentees from the public schools attended private schools, nor what percentage were unable to attend on account of sickness, poverty, or other causes justifying their absence. But, in the absence of proof, it was assumed that a very small percentage of the absentees were denied the privilege of attending the public

schools of the State for causes which might warrant the enactment and interposition of a compulsory education law.

The law adopted at the previous session of the Legislature, which created a radical change in the long-established manner of selecting and drawing juries, has gone into operation. The law declares that the Circuit Court shall, during the last term beginning in the calendar year, appoint two persons as jury commissioners, who shall be freeholders and voters of the county, well known to be of opposite politics, and of good character for intelligence, morality, and integrity. The following oath is to be taken by the commissioners:

"You do solemnly swear (or affirm) that you will honestly, and without favor or prejudice, perform the duties of jury commissioner during your term of office; that in selecting persons to be drawn as jurors you will select none but persons whom you believe to be of good repute for intelligence and honesty; that you will select none whom you have been or may be requested to select; and that in all of your selections you will endeavor to promote only the impartial administration of justice."

The names to be drawn as jurors shall be taken by the commissioners from the tax duplicate of those who shall be legal and qualified voters of the county. All the juries for the year shall be drawn from a list of names made up at the same time by the commissioners, by writing on slips of paper, of uniform shape, size, and color, the names of twice as many persons as will be required by law for grand and petit jurors in the courts of the county for all terms of such courts, to commence within the calendar year next ensuing. The key to the box in which the names are placed shall remain in the custody of one of the commissioners, not of the same politics as the Clerk of the Circuit Court.

The law also provides that "within a period of not more than one week preceding the commencement of any term of court, the clerk, having first well shaken the box, shall draw therefrom a sufficient number of names to make up the jury required, whether it be petit or grand jury. In counties where the Superior Court may have more than one judge, the clerk shall, if so directed by such court or judges, in like manner draw one or more additional petit juries for such court at any term." A jury can be discharged at the expiration of four weeks, and the clerk be ordered to draw another. In case numerous challenges are made, the court can order the clerk to draw from the box such number of names as shall be deemed proper, and the persons drawn shall be summoned by special venire. If, by reason of such special drawing, or otherwise, the names in the box shall be exhausted, so that any of the courts can not be furnished, the judge shall require such jury commissioners "to deposit in the box such additional number of names as the court may order." The com-

missioners are appointed by the judges of the Circuit Court.

The validity of the vote on the constitutional amendments in April, 1880, having been denied by the judges of the Supreme Court, an act was passed to submit them again to a popular vote on March 14th. They have been presented in the previous volume of this annual. It may not be superfluous to explain the objects to be accomplished by them.

The first amendment requires the residence of voters to have been six months in the State, two months in the township, and six weeks in the precinct immediately preceding the election.

This bar to the importation of voters and the invasion of our State from other States for political purposes secures to the voters of the locality and of the State the control of their own political affairs, free from the interference of corrupt and dangerous invaders. It is the corner-stone of local self-government.

The third amendment fixes elections for State officers in November, authorizes the election of judges on a separate day, and allows the Legislature to make a registry law. It is in accord with the laws of other States and the United States, and it adds another safeguard to the fair exercise of the right of suffrage, saves the extra expense of two elections every four years, enables the identification of the legal voters, and puts the choice of the highest judicial officers beyond the range of party spirit.

The second and fourth amendments make the Constitution of Indiana conform to the Constitution of the United States as to the rights of colored citizens.

The fifth amendment authorizes the grading of fees and salaries in proportion to population and necessary services required. Some of the county officers receive greater pay than judges of the Supreme Court, Governors, or members of Congress. This restriction was expected to save hundreds of thousands of dollars annually.

The sixth amendment grants power to establish inferior courts, and makes the administration of justice more speedy and economical. The growth of business population, and wealth; the vast interests begotten by great corporations; the rapid social progress, and the multiplied agitations consequent upon the enterprise of the people, all demand a more complete, prompt, and efficient judicial system.

The ninth amendment restricts the powers of cities, towns, and counties to incur indebtedness beyond a certain rate, and puts a check upon an evil that has grown to enormous proportions in all parts of the land, which will blight the growth and paralyze the energies of the most enterprising communities unless arrested by constitutional restraint.

The vote on the amendments was smaller than at the previous election, but the majority was much larger, and secured their adoption. The vote was, for the first amendment, 123,-

736; against, 45,975; majority, 77,761: second amendment—for, 124,952; against, 42,896; majority, 82,056: third—for, 128,038; against, 40,163; majority, 87,875: fourth—for, 125,170; against, 42,162; majority, 83,008: fifth—for, 128,731; against, 38,348; majority, 90,386: sixth—for, 116,570; against, 41,434; majority, 75,136: ninth—for, 126,221; against, 36,435; majority 89,786.

As the close of the session drew near, the Governor issued a call for the Legislature to hold a special session, which by the Constitution might be continued for forty days. This was rendered necessary by the accumulation of business resulting from the attempt of the Legislature critically to consider the vast body of legislation proposed for adoption by the commission appointed by the act of 1879 to compile and revise the existing statutes of the State.

The acts of the session were strictly of a local nature. A joint resolution was adopted proposing an amendment to the Constitution whereby the manufacture and sale of liquor of any kind for purposes other than mechanical, medicinal, and sacramental, shall be unlawful. Another joint resolution for the amendment of the Constitution proposed to give to women the right of suffrage at all elections; another proposed to lengthen the terms of county officers to four years; and another increases the number of Supreme Court judges.

The joint resolution to prohibit the manufacture and sale of intoxicating liquors, as above mentioned, was adopted, instead of a stringent liquor law, which a large body of the members of the Legislature were pledged to support. In the House it was passed by a vote of 47 yeas to 36 nays. The vote of both Houses was politically divided as follows:

PARTIES.	For.	Against.
Republicans.....	66	11
Democrats.....	11	44

The returns of the census of 1880 have not yet been fully compiled; but, by those of 1870, the number of establishments in the State at that time which would have been closed up by such a constitutional amendment was as follows:

	Distilleries.	Breweries.
Establishments.....	26	99
Hands employed.....	289	443
Capital invested.....	\$658,838	\$1,117,410
Wages paid.....	126,150	175,730
Materials used.....	1,358,196	627,576
Product.....	2,138,420	1,315,116

At the same session the legal disabilities of married women to make contracts were changed as follows: A married woman may hold property and control it as if she were unmarried, and may in her own name sell, exchange, and convey her personal property. She shall be bound by estoppel and by her covenants of title, but she shall not become a surety. Mar-

ried women shall be liable for their torts, and the husband shall not be liable for the contracts or torts of his wife unless where torts are committed with his consent. If he has received property through her he shall be liable to that extent for her debts contracted before marriage. The wife alone shall be liable for repairs of her property. Where the husband deserts his wife and children, or is sent to the penitentiary, or is an habitual drunkard, or refuses to live with his wife, and also fails to provide for his wife and children, the wife may commence an action to recover any obligation in favor of the husband, and the court may make allowances out of the same, and the court may also order the real or personal property of the husband to be sold or leased to make provisions for his wife and children, or the court may authorize the wife to convey or encumber the real estate without the husband joining in the deed or mortgage. This last provision also applies where the husband is insane.

The Legislature of 1879, appreciating the difficulty of making a revision, provided that the Supreme Court judges should appoint three persons as revision commissioners. The judges accordingly appointed three distinguished members of the bar, the result of whose labors appears all through the acts of 1881, and will further appear in the acts of 1883, not only in a briefer and better expression of the old statutes, but also in the addition of many new provisions. Their services will also extend to a better arrangement of the sections of the laws, with appropriate catch-words at the head of each section, and with a careful and elaborate index, and annotation citing the decisions of the courts, and with the correction of occasional misprints.

In the year 1880 there were devoted to the production of cereals 6,972,191 acres, as follows:

CEREALS.	Acres.	Production, bushels.
Barley.....	16,399	382,885
Buckwheat.....	8,846	89,707
Indian corn.....	3,678,420	115,482,300
Oats.....	628,531	15,599,518
Rye.....	25,400	303,105
Wheat.....	2,619,695	47,284,853
Total.....	6,972,291	179,141,868

Estimating the population of Indiana at 2,000,000, it will be seen that the acres devoted to bread-crops amounted to something more than three acres per capita, with a product above eighty-eight bushels per capita.

The crop of tobacco in the State, as returned to the Census Bureau, presented the following result:

Acercago, acres.....	11,955
Production, pounds.....	8,372,842
Value of crops in farmers' hands.....	\$443,642 00
Value per 100 pounds.....	5 00
Value per acre.....	37 10
Cost of production per 100 pounds.....	3 60
Difference between cost and value per 100 pounds	1 40

The State Bureau of Statistics for 1881 reports the acreage of oats at 556,103; that of 1880, 823,847.

By the chief of the same bureau, some statistics of the diseases of domestic animals in the State were obtained. There are in all 1,011 townships, of which 457 made reports relative to these diseases. The diseases to cattle, as reported, are ten in number, and are named as follows: milk-sickness, mouth-and-foot disease, black-leg, mouth-disease, catarrhal Texas fever, dry murrain, garget, erysipelas, weed in bag, and itch. These diseases, with diseases unknown, killed in 1880 328 cattle. The total number of deaths, if all the townships had reported, would have been, at the same rate, 454 out of a total of 973,143 cattle in the State, or 1 in 2,143½. The diseases of horses and mules reported are distemper, yellow water, epizootic, lung-fever, colic, glanders, quinsy, farcy, blind staggers, and spinal disease. These destroyed during the year 981 horses and mules. There were destroyed during the year 1,670 sheep by foot-rot, scab, grabb, and by dogs. The dogs did about as much harm as disease, for they killed 818 sheep of 1,670 reported. The only disease of hogs is cholera, and this malady carried off 119,647.

This State Bureau also reports that 274 companies or firms are engaged in coal-mining and 445 in stone-quarrying. The Indiana coal-fields embrace an area of over 7,000 square miles, offering seven workable seams at a depth ranging from 50 to 220 feet, and averaging 80 feet below the surface. The seams vary in thickness from 2½ to 11 feet, averaging 4½ feet. The quality is fair to good, as shown by analyses in the geological reports. An area of 600 square miles in this field yields a superior "block" or "splint" coal, which is used in the blast-furnace as it comes from the mine, without coking. It may be had on every line of railway at from 5 to 10 cents per bushel, or at from \$1.50 to \$2.80 per ton. Indiana has inexhaustible beds of fire and potters' clay, brick clay, cement, lime, sandstone, paving-stone, and limestone of superior quality, with extensive mines of kaolin.

The Governor made the appointment of Calvin Fletcher, of Owen County, the Fish Commissioner of the State. He is required, among the duties assigned to him, to examine the various lakes, rivers, streams, and water-courses of the State, and ascertain whether they can be rendered more productive in the supply of fish; also, what measures are desirable and expedient to effect this object, either in propagating and protecting the fish that at present frequent the same, or in the selection and propagation of other species of fish therein, or both. Said commissioner shall also inquire into and test the best modes of artificial propagation of fish in the various waters of the State, and shall procure and superintend the procuring of the fish, fish eggs or spawn, necessary for such waters and the propagation of the fish therein.

The expenses of the State Prison North during the year ending October 31st exceeded the receipts \$1,359. The number in prison at that date was 572. Of these prisoners the number who could read and write was 446, and the number who could neither read nor write was 100. The number who could read only was 26; the number born in the United States was 501. At the time of conviction 5 were under fifteen years of age, 117 were between fifteen and twenty years, 184 between twenty and twenty-five years, and 114 between twenty-five and thirty years.

In the Southern Prison at the same date there were 518 convicts: 120 were minors at the time of conviction, 137 between twenty and twenty-five years of age, 110 between twenty-five and thirty, and 1 was over sixty-five; 125 were intemperate, and 228 could not write.

In the Insane Asylum the whole number treated during the year was 1,738, and the average daily number resident was 1,070. The ratio of recoveries on admissions was 49 per cent, and the ratio of deaths in the whole number treated was 6½ per cent. The number of insane in the State is estimated at about 2,500.

In the Deaf and Dumb Institution, for the year ending October 31st, there were 405 pupils admitted and 61 dismissed, leaving 344 enrolled. On the basis of 100 per cent as perfect, the superintendent gives the following figures as the average of the pupils of all grades for four years: 1878, 84 per cent; 1879, 83 per cent; 1880, 85 per cent; 1881, 86 per cent. In the mechanical and industrial departments equal progress has been made, and of the 61 discharged a large number were prepared to pursue vocations that they had learned at the institution.

In the Blind Asylum 122 pupils are enrolled, comprising representatives of nearly all the counties of the State. Three courses of study, literary, musical, and industrial, are now open to the inmates. More than 1,500 pieces of fabric work have been made by the girls during the year, and the boys have been equally successful in their departments.

The State Bureau of Statistics has prepared a table which shows the relative value of the cost of machinery to the agricultural product. The annual value of implements, which includes repairs, is obtained by dividing the first cost by the number of years the implements will last. The price and duration are obtained by consulting a large number of dealers and intelligent farmers. The value of the products is obtained from reports made to the bureau by 1,100 township assessors throughout the State, and is based upon the average of the last three years. The results of these statements are that the annual cost of agricultural implements and machinery is \$3,647,833.90; the annual value of agricultural products, \$97,395,505.50; the ratio of annual cost of implements to annual value of production is \$1 to \$26.69. Benton

County gives the best return, the cost being but \$1 for every \$48 worth of production. It is followed by Tippecanoe County, with \$1 to \$43. Several others are nearly even, and raise the average of the State to \$1 to \$27. There is much difference in the conditions of the counties. For instance, in some the wear of machinery by the nature of the soil, etc., is much greater than in others; the market for purchasing implements is often so convenient as to materially increase their cost by frequent

and unnecessary purchases; and the market for the sale of products is extremely variable. In considering the table, all these conditions are to be taken into account, as it is probable that, if the same status existed throughout the State, the table might be very materially changed.

Following is the population of the State by counties, as finally returned by the census of 1880, and as compared with the population of 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adams.....	15,335	11,332	Hendricks.....	22,931	20,277	Pike.....	16,383	13,779
Allen.....	54,768	43,494	Henry.....	24,016	22,986	Porter.....	17,227	13,942
Bartholomew....	22,777	21,123	Howard.....	19,584	15,347	Posey.....	20,657	19,185
Benton.....	11,108	5,615	Huntington....	21,805	19,036	Pulaski.....	9,551	7,501
Blackford.....	8,020	6,272	Jackson.....	23,050	18,974	Putnam.....	22,501	21,514
Boone.....	25,922	22,593	Jasper.....	9,464	6,354	Randolph....	26,435	22,862
Brown.....	10,264	8,651	Jay.....	11,232	15,000	Ripley.....	21,627	20,977
Carroll.....	18,845	16,152	Jefferson.....	25,977	29,741	Rush.....	19,238	17,626
Cass.....	27,611	24,193	Jennings.....	16,453	16,213	Saint Joseph..	33,178	25,322
Clarke.....	28,610	24,770	Johnson.....	19,587	18,366	Scott.....	8,343	7,873
Clay.....	25,554	19,054	Knox.....	26,324	21,562	Shelby.....	25,257	21,892
Clinton.....	23,472	17,330	Kosciusko....	26,494	23,531	Spencer.....	22,122	17,998
Crawford.....	12,356	9,851	Lagrange.....	15,630	14,148	Starke.....	5,105	3,883
Daviess.....	21,552	16,747	Lake.....	15,091	12,839	Steuben.....	14,645	12,554
Dearborn.....	26,671	24,116	La Porte.....	30,985	27,062	Sullivan.....	20,336	18,453
Decatur.....	19,779	19,053	Lawrence....	18,543	14,628	Switzerland..	13,336	12,134
De Kalb.....	20,225	17,167	Madison.....	27,527	22,770	Tippecanoe...	35,966	33,515
Delaware.....	22,926	19,030	Marion.....	102,732	71,939	Tipton.....	14,407	11,953
Dubois.....	15,992	12,597	Marshall.....	23,414	20,211	Union.....	7,673	6,341
Elkhart.....	33,454	26,026	Martin.....	13,475	11,103	Vanderburg...	42,193	33,145
Fayette.....	11,394	10,476	Miami.....	24,038	21,052	Vermillion....	12,025	10,640
Floyd.....	24,590	23,300	Monroe.....	15,875	14,163	Vigo.....	45,658	33,549
Fountain.....	20,228	16,339	Montgomery..	27,316	23,765	Wabash.....	25,241	21,305
Franklin.....	20,092	20,223	Morgan.....	18,900	17,528	Warren.....	11,497	10,204
Fulton.....	14,301	12,726	Newton.....	8,167	5,829	Warriek.....	20,162	17,633
Gibson.....	22,742	17,371	Noble.....	22,956	20,389	Washington...	18,955	13,495
Grant.....	23,613	18,457	Ohio.....	5,563	5,337	Wayne.....	38,613	34,043
Greene.....	22,996	19,514	Orange.....	14,363	13,497	Wells.....	18,442	13,555
Hamilton.....	24,301	20,852	Owen.....	15,901	16,137	White.....	13,795	10,554
Hancock.....	17,123	15,123	Parke.....	19,460	18,166	Whitley.....	16,941	14,339
Harrison.....	21,326	19,913	Perry.....	16,997	14,301			
State.....							1,973,301	1,680,637

INDIGO, ARTIFICIAL PRODUCTION OF. The industrial reproduction of the most valuable coloring matter derived from organic nature is the latest and the crowning achievement of the coal-tar industry. This great industry affords a striking argument in favor of the practical utility of the cultivation of science for purely scientific objects; since here, as in many other cases, the study of the deeper problems of nature has led incidentally to great improvements in the arts of life. The inventor of the artificial process of preparing indigo is a distinguished German chemist, Professor B  yer. His discovery was published in 1880. B  yer set out with the definite object of discovering the synthesis of indigo. His study of its composition in the light of the modern theory of atom-linking or molecular arrangement led him to the conclusion that it is built up of one molecule of benzole, containing a side chain of two carbon-atoms, and on this latter a nitrogen-atom in the ortho-position. In searching for bodies whose transformation products showed a similar arrangement of atoms, he discovered derivatives of cinnamic acid which seemed to present the same molecular grouping. Cinnamic acid was formerly obtained only from certain costly resins, as storax, tolu,

and Peru balsams. It has, however, recently been produced synthetically by the action of acetyl chloride on benzaldehyde; and a cheaper process has been found in which benzole chloride is treated with acetate of soda. The chloride of benzole with its derivative aldehyde are produced from toluole, one of the waste products of coal-tar distillation. B  yer's discovery of the synthesis of indigo led to extensive experiments with derivatives of cinnamic acid, to find a process of conversion capable of industrial utilization. The derivative best adapted for the purpose was found to be ortho-nitro-phenyl-propionic acid, which, when treated with alkaline reducing agents, produces indigo directly. Nitro-phenyl-propionic acid is a yellowish-white powder in the dry state. It is obtained in the following manner: Cinnamic acid is first nitrified with nitric acid, the product being a mixture of ortho-, meta-, and para-nitro-cinnamic acids. To separate the ortho acid, which is the one used in indigo manufacture, they are converted into methylic ethers by the aid of hydrochloric acid and wood spirits, and the ethers are separated by fractional distillation. From the para acid, which is the most abundant by-product, a beautiful red dye has been obtained. The me-

thylic ether of the ortho acid is saponified with dilute soda lye, thus being converted into methylic alcohol and the soda salt of the acid, from which salt the acid is set free by substitution of another acid. The acid, when dried, is converted into dibromo-ortho-nitro-cinnamic acid by the absorption of liquid or gaseous bromine. The bromine is then released by an alkali taking with it two atoms of hydrogen to form hydrobromic acid. The abstraction of the hydrogen converts the nitro-cinnamic acid into a new substance, which is nitro-phenyl-propionic acid.

The recovery of the expensive chemical materials used, such as methylic alcohol and bromine, necessitates a large outlay for apparatus and labor. Like all such complicated chemical processes, when carried out on an industrial scale, it is exceedingly difficult to obtain the materials in a state of purity and to prevent the reactions from being accompanied by secondary reactions, which spoil the product. Toluole is always accompanied by the homologues xylol and cumol, and in nitrating and bromiding substitution products will be formed instead of the isomer desired, unless expensive methods of purification are resorted to. At the present stage of the new industry it is impossible to produce indigo by the artificial process to compete in price with the natural indigo. Ortho-nitro-phenyl-propionic acid yields true indigo; this can be converted into indigo carmine, and acts in all respects like the natural dye, while the color is handsomer than that of the best Bengal indigo. It is possible that, among the numerous combinations which may be made, some other body may be discovered which will possess as valuable coloring properties as indigo, and whose production will be attended with fewer difficulties. Meanwhile, the artificial production of the nitro-phenyl-propionic acid, notwithstanding its expensiveness, is established on a firm commercial basis because of a valuable adaptation which makes it more desirable to the calico-printer than natural indigo. Indigo can be prepared for direct printing on calico by an expensive process which was known to but few. Most calico-printers resorted to the still more troublesome method of dyeing the goods in the indigo-vat and then biting out the spots which were to be printed in other colors. The discovery of the new compound from which indigo can be easily developed does away with all this labor. The nitro-phenyl-propionic acid is mixed into a paste, with which the figures are printed upon the calico. It is converted into indigo-blue by the abstraction of one of the atoms of oxygen, differing from reduced indigo, or indigo-white, which is reconverted by the absorption of an oxygen-atom. The deepest shades can be produced from the new material either by mixing it with the reducing agent, or preferably by impregnating the fabric with the reducing agent, before printing. The reducing agents first used were grape and milk sugars. Heat

was required with these to develop the color, and great difficulty was experienced in regulating the temperature and time of exposure. Xanthogenate of potassium is now employed, with which the color develops spontaneously in the cold in from twelve to twenty-four hours. By first impregnating the fabric with the reducing agent the color develops in the fiber, whereas if it is mixed with the printing material the color forms too rapidly. The reducing agents act only in alkaline solutions; but the weaker the alkali the more perfect the color, so that alkaline salts, like borax, are preferred. A disadvantage of the new material, which may yet be overcome, is that the color can not be developed by superheated steam; hence, it is impossible to use it in conjunction with the steam dyes.

INSANITY AS A DEFENSE FOR CRIME.

The shooting of President Garfield, and the defense set up in behalf of the assassin, occasioned a fresh discussion of the relations of insanity to crime, the validity of the plea of insanity as a defense in murder cases, and the measure of evidence required to establish it. This was not only made the subject of general discussion, but received an unusual degree of attention as a matter for judicial interpretation. (For various expert opinions, and the application of legal principles in Guiteau's case, the reader is referred to the article in this volume on *GUITEAU'S TRIAL*.)

The discussion has turned largely upon questions as to what really constitutes insanity, how far its various phases destroy responsibility in those affected by it, whether the insane of various classes should be held amenable to punishment for their acts, and what are the legal requirements as to proof when a plea of insanity is set up. Dr. E. C. Seguin defines six categories of persons subject to mental aberration, who are liable to commit crimes during its continuance. First are those liable to attacks of epilepsy. The epileptic conditions are usually of short duration, and accompanied by hallucinations of sight and hearing, and followed by complete amnesia, the patient having no recollection of what he has said or done during the attack. Second are cases of transitory mania or fury, in which the patient acts upon an irresistible impulse. Dr. Seguin considers genuine cases of this class as exceedingly rare, and says that it covers many instances of "sham" insanity, pleaded in defense of crime. In the third class are those who commit criminal acts in the course of simple functional insanity, as mania and melancholia, under the influence of hallucinations and delusions. These persons believe firmly in the state of things presented in their delusions, and act upon it without any ability to reason upon the consequences. They simply act in accordance with the unreal conditions which to them seem real. The fourth category includes those who are at first subject to very little general intellectual disorder, but

have a special mania, such as imagining they are persecuted or watched, and in danger of being waylaid by secret enemies. Fifth are persons afflicted with general paresis or paralytic dementia, who are liable to break out into acts of fury directed against any object that for the moment excites anger or hostility. Sixth is "the enormous group of feeble-minded persons, whether primarily imperfect and weak or become demented later in life," which "furnishes many of the insane criminals, and probably fully as many criminals who are considered sane by the law. . . . In all varieties of this class of feeble-minded persons," says Dr. Seguin, "actions, whether simply offensive or criminal, result from the execution of instinctive or reflex tendencies, not controlled as in health by knowledge of right and wrong, by fear of punishment, by a healthy will. In short, judgment and self-restraint are impaired or absent in these cases." This writer expresses the belief that "the criminal insane should be held just as responsible to human punishment—i. e., preventive and educating punishment—as sane criminals." He would have special accommodations provided for their restraint and treatment, and in most cases he thinks the isolation should be perpetual, as the malady from which the criminal impulse springs is incurable. In the case of that acute curable mania, whose victims commit crimes under the stress of delusions, he says that the isolation should be continued until a long interval of mental health gives assurance that the attacks will not recur.

Dr. J. S. Jewell, in treating of the same subject, defines three groups of cases: those in which "the individual becomes the subject of a more or less enduring impulse, or strain of urgent inclination, toward a particular wrong or criminal act," with a knowledge of its character, but an increasing inability to resist; those in which the victim is subject to overpowering delusions, and "absolutely devoid of moral responsibility"; and those "in which profound modifications of the moral sense do not exist, nor any single definite morbid impulse arising from disordered emotion, so often seen in impulsive monomania or the simpler forms of insanity of feeling, but in which the chief feature is lack of consecutiveness in mental action. Dr. Jewell declares that there may be partial insanity, affecting "one single mental function or group of functions," or involving a certain "degree of aberration in any given direction." He is therefore of opinion that questions of responsibility can be answered only by a "careful study of each case on its own merits, and the application to it of the practical criteria to be obtained from a study of average healthy human beings, observed, as far as possible, under conditions identical with those under which the criminal act was committed." As a practical suggestion, he says that the examination should be made, in any case on trial, not by expert witnesses called on

either side, but by an expert commission, entirely independent and unbiased, assigned to the "task of aiding the judge and jury (after due questioning by court and counsel), not only to learn what are the facts, but how to estimate or value them."

Dr. C. F. Folsom says: "Uncomplicated with other mental diseases, moral insanity is, in my opinion, so seldom observed as to constitute one of the curiosities of medical experience; and then it is associated with symptoms so well marked as to make a diagnosis not difficult, although the term, like masked epilepsy, is frequently resorted to as a cover for respectable drunkards, or thieves, or murderers, or to furnish a willing jury an excuse to acquit of homicide the man who kills his wife's seducer, or the young woman who shoots her betrayer. So long as the responsibility of the insane is decided upon the grounds—1. That there must be other evidences of insanity than the crime; 2. That the whole group of symptoms must correspond to definite disease; 3. That the crime must be a part of the natural history of the disease; 4. That a reasonable degree of self-control should be exercised, according to the capacity for it in each case—we are on a secure footing; and these points must be decided by competent authority, from full consideration of all the circumstances and conditions of each case." The same authority says: "A man distinctly insane by the medical criterion is irresponsible for crime when the conditions defining his legal responsibility are at the time of the act—1. Sufficient mental capacity for ordinary reason, reflection, and judgment; 2. The knowledge of right and wrong as applied to the particular act; 3. The power of self-control within reasonable limits; 4. The absence of insane delusion overpowering reason—the character and strength of the false belief to be judged in each particular case, and not by any general definition of insane delusion, that being impossible. What would be an insane delusion in one man under certain circumstances might be entirely otherwise in another with different conditions. The further from reason and probability and the more persistent a delusion, the more is it an indication of some unsoundness of the whole mind; but an insane man may be quite irresponsible, whether his acts were justified or not, supposing the facts suggested by his delusion were true, provided his mind were so weakened that he could not reason correctly from his false premises."

Dr. I. J. Elwell expresses his entire dissent from the doctrine of moral insanity, and doubts the propriety of allowing insanity in any form to be a defense for crime: He says: "If society can not be securely protected against the sane assassin without destroying him, which seems to be the settled conviction of mankind, it is equally necessary to destroy the 'emotional' and 'moral' insane, for society is as much, if not more, in danger from this unstable

and uncertain class as from the sane murderer, who might live to see the error of his evil way, and abandon it; while the insane, because of less intelligence and more obtuse sensibilities, is not so easily influenced." He further says: "The fear of punishment or dread of death is as great in case of the insane as of the sane, and has the same restraining influences; therefore, the insane criminal is morally responsible for his acts."

Dr. William A. Hammond, writing on "The Punishability of the Insane," says: "Regarding the matter from the stand-point that all laws are for the protection of society, and that the principles of abstract justice, as between the offender and society, have no necessary place in jurisprudence, there seems to be no valid reason why, if the protection of society demands it, the insane should not be punished for violations of law, even though they be morally irresponsible for their acts by reason of delirium, dementia, morbid impulse, emotional insanity, or any other form of mental aberration." And again: "The influence of example is not lost on the insane, or those who are on the verge of mental alienation. Every medical officer of an asylum, or other physician who sees many cases of insanity, knows that lunatics are capable very generally of being influenced by rewards for good, or punishments for bad, conduct. Now, there are many persons passing through life scarcely suspected of insanity, but who, nevertheless, are the subjects of mental alienation. They only require an adequate existing cause to produce such a state of mental disturbance as to turn the scale decidedly, and urge them to the perpetration of some overt criminal act—usually a murder. If these people are made to understand that they will be held legally responsible for their conduct, and punished if they are found guilty, they will make such efforts to control themselves as will probably prove successful." He further remarks: "Thus we see that an individual may be medically insane, and yet not a lunatic in a legal sense. His brain is diseased, either temporarily or permanently; his mind is not in all respects normal in its action—and yet he is responsible for his acts. Many of the insane are clearly irresponsible, and their punishment is demanded only by the imperative necessity which exists of securing the safety of society by preventing their committing criminal acts. This should be done in that way which experience shows is most conducive to the accomplishment of the end in view, even if it involves the taking of the life of the lunatic."

Mr. Edward B. Hill, a legal writer on the subject, takes the broad ground that insanity should not be regarded as a defense for crime at all. He says: "But behind and beyond the question of what proof of insanity should be required lies the question—which does not seem to have occurred to many people—whether insanity should be a defense in capital cases at

all. It may seem at first startling to put it as a debatable matter, but that it is at least open to argument a little consideration will show. Capital punishment differs from other forms of punishment, in that it is no part of its aim to work any reformation in the criminal. The two aims of punishment in general are, however, as prominent here as anywhere else. These aims are: 1. To prevent repetition of the offense by the criminal; 2. To prevent commission of the offense by others. Both kinds of punishment rely on the same means of effecting the second object, which is the dread of the punishment inflicted in a given case; but to effect the former object capital punishment removes from the criminal all power of ever acting at all, while milder forms rely upon the dread of again incurring them to induce the criminal to abandon his evil ways. The theory of the two clearly is, that one who commits the higher offenses is supposed to be so depraved that nothing but his death can protect society from him, while in the other cases it is supposed that less extreme measures will suffice. Now, if these views are applied to the case of a lunatic, it will be seen that every argument that can be adduced to show the necessity for the death of a sane murderer has tenfold more weight in the case of an insane murderer. If it be hopeless that a sane murderer should ever cease to be dangerous, it is certainly so in the case of a lunatic. He is possessed of an insane delusion, under the influence of which he has committed one murder and may commit others, or (if we accept the theory of 'emotional insanity') he is liable, under certain circumstances, to be so much excited as to be irresponsible, and in that state to commit murder. If committed to an asylum, he may so far improve as to be discharged as cured, and yet he may have a recurrence of the dementia, which may again impel him to a performance of new crimes. Society is never safe while he lives." This writer holds that moral guilt has nothing to do with the question, as it is the province of human law to punish acts that are harmful to society without regard to their moral aspects. On this point he says: "It is of the essence of punishment that it should have an ulterior end beyond the infliction of the penalty, and this ulterior end (as to the criminal) is that he, by experiencing the penalty of his offense, should be deterred from a repetition of the crime. It would, in general, be manifestly vain to hope for such an effect upon a lunatic, and therefore such punishments are not applicable to him. But in capital cases the only aim of the law is to destroy the offender, and remove by his death a danger to society which can be removed in no other way. The danger to society from an insane murderer is, at least, as great as from a sane murderer, and society has as much need of protection in the one case as in the other. If it is vain to hope that the sane murderer, who is open to the effects of

milder penalties, can be rendered harmless while he lives, it is still more so in the case of an insane murderer, upon whom milder penalties would have no effect. Every argument that will apply in favor of the death-penalty at all, will apply with greater force in the case of the insane than in that of the sane, with, perhaps, one seeming exception. This exception is that of the argument derived from the deterrent effect of the example upon others who might be tempted to commit the same crime. Of course, if insanity were no defense, it would never be falsely set up by one accused of murder; but would the death-penalty have any deterrent effect upon those not yet guilty? It would certainly take away one hope for escape from the sane murderer *in posse*, and it may be doubted whether it would not have some effect upon the insane, who certainly seem sometimes to calculate upon the immunity which their state affords them. But whether this be so or not is really immaterial. The great object of the death-penalty is the death of the criminal, and this being attained, and society being freed from the menace of his existence, the rest is but of secondary importance." He therefore urges the policy of destroying insane murderers "as we do any one or anything else whose continued existence threatens the general safety of society."

Judicial definitions of insanity in murder cases have acquired a new interest in view of the discussion that has arisen. Precedents that are regarded as more or less authoritative run back to the time of Lord Hale, who laid down this rule: "Such a person as, laboring under melancholy distempers, hath yet ordinarily as great understanding as ordinarily a child of fourteen years hath, is such a person as may be guilty of treason or felony." In 1725, in the case of Edward Arnold, indicted for shooting at Lord Onslow, Mr. Justice Tracy said, in charging the jury: "If he was under the visitation of God, and could not distinguish between good and evil, and did not know what he did, though he committed the greatest offense, yet he could not be guilty of any offense against any law whatsoever." And further: "If you believe he was sensible and had the use of his reason and understood what he did, then he is not within the exemptions of the law." In the case of Lord Ferrers, tried for murder in 1760, the solicitor-general stated the question thus: "Was he under the power of it [insanity] at the time of the offense committed? Could he, did he, at that time distinguish between good and evil?" The rule of law was stated thus: "If there be a total permanent want of reason, it will acquit the prisoner; if there be a total temporary want of it when the offense was committed, it will acquit the prisoner; but if there be only a partial degree of insanity mixed with a partial degree of reason, not a full and complete use of reason, but (as Lord Hale carefully and emphatically expresses himself) a competent use of it

sufficient to have restrained those passions which produced the crime; if there be thought and design; a faculty to distinguish the nature of actions; to discern the difference between moral good and evil—then, upon the fact of the offense proved, the judgment of law must take place." In the case of the Queen against Oxford, Lord Denman laid down the rule thus: "The question is, whether the prisoner was laboring under that species of insanity which satisfies you that he was quite unaware of the nature, character, and consequences of the act he was committing, or, in other words, whether he was under the influence of a diseased mind, and was really unconscious, at the time he was committing the act, that it was a crime." In the celebrated and much-quoted case of McNaughten Lord Chief-Justice Tindal instructed the jury that "the question to be determined is whether at the time the act in question was committed the prisoner had or had not the use of his understanding, so as to know that he was doing a wrong or wicked act." This case gave rise to a discussion in the House of Lords, and the questions involved were submitted to the judges for an authoritative decision. In their answers the judges said that, in case of insane delusion under the influence of which the accused sought to redress or revenge some supposed grievance or injury, or produce some supposed public benefit, he was "punishable according to the nature of the crime committed, if he knew at the time of committing such crime that he was acting contrary to law"; there was no exemption from responsibility unless, "at the time of the committing of the act, the party accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or, if he did know it, that he did not know he was doing what was wrong"; if the accused was under an insane delusion as to existing facts and committed an offense in consequence thereof, he "must be considered in the same situation as to responsibility as if the facts with respect to which the delusion exists were real." These decisions are regarded as fixing the rule for the English courts.

In the United States there has been great divergence of opinion. In some States the question is left to the jury, in a general way, as to whether insanity caused the crime; in others, knowledge of right and wrong is made the test, as in England; in still others, the test of a knowledge of right and wrong is coupled with an inquiry as to the defendant's power to control his actions. The right and wrong test may be said to have prevailed generally in the Federal courts, and in those of the States of New York, New Jersey, California, Missouri, Wisconsin, Tennessee, Texas, Alabama, Louisiana, Virginia, North Carolina, Georgia, Mississippi, Maine, Delaware, and Nebraska. This test is modified by admitting the question of power to apply the knowledge and to control action,

in the States of Massachusetts, Pennsylvania, Ohio, Kentucky, Minnesota, and Iowa. The question of responsibility is left, in a general way, to the jury, in New Hampshire, Indiana, Illinois, Michigan, and Kansas.

The rule of evidence as to the proof of insanity has also been the subject of divergent views and opinions. From these, three different rules have been evolved: 1. Insanity must be proved by a preponderance of evidence; 2. Insanity must be proved beyond a reasonable doubt; and, 3. If the jury have a reasonable doubt of sanity, they must acquit. English authority is strongly in favor of the position that, when insanity is pleaded by the defense, it must, in the language of the judges, in their answers in regard to *McNaughten's* case, be "clearly proved." In the United States there is some conflict and inconsistency in the decisions, but New Jersey seems to stand alone in requiring the defense to prove the insanity beyond a reasonable doubt. The burden of proof is held to be upon the prisoner, but the degree of proof is not distinctly defined, in the States of Massachusetts, Maine, Pennsylvania, Delaware, Virginia, Ohio, Georgia, Alabama, Louisiana, Mississippi, Missouri, Texas, Minnesota, and California. The same appears to be the case in the Federal courts. In New Hampshire, New York, Indiana, Illinois, Kentucky, Kansas, Tennessee, Michigan, Nebraska, and North Carolina, it has been generally held that, where the jury have a reasonable doubt of the prisoner's sanity, they must acquit him. The extremes have been presented in the contiguous States of New York and New Jersey. In the case of *Spencer*, in the latter State, Chief-Justice Hornblower said that "every man is presumed to be sane until the contrary is clearly proved. . . . The proof of insanity at the time of committing the act ought to be as clear and satisfactory, in order to acquit him on the ground of insanity, as the proof of committing the act ought to be in order to find a sane man guilty." In the case of *McCann*, in New York, on the other hand, the judge said: "If there be a reasonable doubt about the act of killing, all will concede that the prisoner is entitled to the benefit of it; and if there be any doubt about the will, the faculty of the prisoner to discern between right and wrong, why should he be deprived of the benefit of it, when both the act and the will are necessary to make out the crime?" In the case of *Cole*, tried for killing *Hiseock* in a fit of jealousy, on account of the alleged seduction of his (Cole's) wife, the jury, in asking for further instructions, stated that they "found the prisoner to have been sane at the moment before and the moment after the killing; but they were in doubt as to his sanity on the instant of the homicide." Judge Hogeboom charged the jury that "they must give the prisoner the benefit of the doubt, if they had such rational doubt, founded upon the evidence, and could believe such doubt to be well founded upon such con-

dition of the case as was presented by this statement of the jury."

On the 2d of December, 1881, the trial of Elizabeth Coleman for the murder of George T. Coles was completed in the Court of Oyer and Terminer in the city of New York. The charge of Chief-Justice Davis to the jury was as follows:

Insanity is usually spoken of, both in common language and in the books, as a defense to crime. But it is no defense, because, where the insanity recognized by the law exists, there can be no crime to defend. An insane person is incapable of crime. He is devoid, both in morals and in law, of the elements essential to the constitution of crime, and hence is an object of pity and protection, and not of punishment. Therefore, whenever it is established that a party accused of crime was, at the time of its alleged commission, insane within the established rules of the criminal law, he is entitled to acquittal on the ground of innocence, because of incapacity to commit the offense, however monstrous his physical act may appear. Both humanity and the law revolt against the conviction and punishment of such a person. But insanity is a condition easily asserted, and sometimes altogether too easily accepted. Hence juries, while they should be careful to see to it that no really insane person is found guilty of crime, should be equally careful that no guilty person escapes under an ill-founded pretext of insanity.

It is important that juries on trials of alleged crime should clearly understand what insanity is, within the established rules of the criminal law. Without such rules the administration of justice in such cases would be dependent upon the shifting caprices of judges, or the equally unsubstantial passions or prejudices of jurors. In this State the test of responsibility for criminal acts, where insanity is asserted, is the capacity of the accused to distinguish between right and wrong at the time, and with respect to the act which is the subject of inquiry. This rule is stated by the authorities in different forms, but always in the same substance. In one case it was said, "The inquiry is always brought down to the single question of a capacity to distinguish between right and wrong at the time the act was done." In the most authoritative of the English cases it is said, "It must be clearly proved that, at the time of committing the offense, the party accused was laboring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong." And, in a very late case in our Court of Appeals, a charge in that language was held to present the law correctly to the jury. So you will see, gentlemen of the jury, that, in this case, the firing by the prisoner of the shot by which the deceased was killed being proved and admitted, the question whether the act was criminal depends upon your finding, as a matter of fact, whether, at the time of doing the act, the prisoner knew what she was doing, and that she was doing wrong; or, in other words, did she know that she was shooting the deceased, and that such shooting was a wrongful act? If she did know these things, her alleged insanity is not established within the rules of the law, however much you may be convinced that she acted under the intensest emotional excitement, or however fully she believed she was justified in avenging her own wrongs, or however much you may think the deceased was deserving of punishment. "The doctrine that a criminal act may be excused upon the notion of an irresistible impulse to commit it when the offender has the ability to discover his legal and moral duty in respect to it, has no place in the law"; and there is no form of insanity known to the law as a shield for an act otherwise criminal, in which the faculties are so disordered or deranged, that a man, though he perceives the moral

quality of his acts as wrong, is unable to control them, and is urged by some mysterious pressure to the commission of the act, the consequences of which he anticipates and knows. This is substantially the language of the Court of Appeals in the case already referred to. If it were not so, every thief, to establish his irresponsibility, could assert an irresistible impulse to steal, which he has not mental or moral force sufficient to resist, though knowing the wrongful nature of the act; and, in every homicide, it would only be necessary to assert that anger or hatred or revenge, or an overwhelming desire to redress an injury, or a belief that the killing is for some private or public good, has produced an irresistible impulse to do a known illegal and wrongful act. Whatever the views of scientists or theorists on the subject of insanity may be, and however great a variety of classification they may adopt, the law, in a criminal case, brings the whole to the single test—did the person doing the act at that time have sufficient sense to know what he was doing, and that it was wrong to do it? If that be his condition, it is of no consequence that he acts under an irresistible influence or an imaginary inspiration in committing the wrong. Emotional insanity, impulsive insanity, inspirational insanity, insanity of the will or of the moral sense, all vanish into thin air whenever it appears that the accused knew the difference between right and wrong at the time and in respect of his act. No imaginary inspiration to do a personal and private wrong, under a delusion or belief that some great public benefit will flow from it, when the nature of the act done, and its probable consequences, and that it is in itself wrong, are known to the actor, can amount to that insanity which in law disarms the act of criminality. Under such notions of legal insanity, life, property, and rights, both public and private, would be altogether insecure; and every man who, by brooding over his wrongs, real or imaginary, shall work himself up to an irresistible impulse to avenge himself or his friend or his party, can with impunity become a self-elected judge, jury, and executioner, in his own case, for the redress of his own injuries, or of the imaginary wrongs of his friends, his party, or his country. But, happily, gentlemen of the jury, that is not the law; and whenever such ideas of insanity are applied to a given case as the law (as too often they have been), crime escapes punishment, not through the legal insanity of the accused, but through the emotional insanity of courts and juries. I have felt it my duty in this case to give you my views of the law of insanity as applicable to the case in emphatic terms; but I assure you, gentlemen, I have had no intention, in doing so, to affect your minds in determining the facts of the case to which you are to apply the law. The prisoner is entitled to a consideration of the facts of the case by you, uninfluenced by any expression of opinion in respect of them by the court.

The Court of Appeals of the same State rendered a decision bearing upon this subject on January 17, 1882. The opinion of the judges, written by Judge Danforth, was in the following terms:

The appellant was convicted of an assault with intent to kill. The conviction was affirmed by the General Term of the Supreme Court, and upon appeal from that decision two points are made in his behalf: 1. That the court erred in charging the jury. In support of this proposition it is assumed by his counsel that the judge charged that "the defense of insanity is an affirmative defense, and the prisoner is bound to satisfy the jury by proof that he was insane." 2. That he erred in refusing to charge that the defendant was entitled to the benefit of any reasonable doubt arising on the evidence as to sanity or insanity. We think neither are well taken. The questions upon the trial were: 1. Were the acts charged committed by the prisoner? 2. At the time of the commission was he in such condition of mind as to be responsible

for them? If answered in the affirmative, the acts constituted crime and the conviction was proper. As to each, therefore, the burden was upon the prosecutors, for upon the existence of both the guilt of the prisoner depended. This result follows the general rule of evidence, which requires him who asserts a fact to prove it. That the first proposition is established is not denied—the legal presumption that every man is sane was sufficient to sustain the other until repelled, and the charge of the judge, criticised in the first point made by the appellant, goes no further. If the prisoner gave no evidence, the fact stood; if he gave evidence tending to overthrow it, the prosecution might produce answering testimony; but in any event he must satisfy the jury upon the whole evidence that the prisoner was mentally responsible, for the affirmative issue tendered by the indictment remained with the prosecutor to the end of the trial. Without going to other authorities, these observations are warranted by *Brotherton vs. the People* (75 N. Y., 159), where the general rule above stated was applied to questions similar to those before us. It was not violated by the trial court. After referring to the acts constituting the offense charged and the rules of law applicable thereto, the learned judge called attention to the fact alleged in behalf of the prisoner that he was an insane man at the time they were committed, and so not responsible therefor, and directed them to determine from the evidence whether or not such is the fact. "He is presumed," the court said, "to be a sane man until he convinces you by evidence that he is insane"; defined insanity in a manner not objected to, and said, "If such was the prisoner's condition, he was relieved from the responsibility, otherwise he was responsible for that which he does"; and in conclusion said, "If you have a reasonable doubt from the evidence that the prisoner is guilty of this crime, then you should give him the benefit of that doubt." These words related to and covered the whole issue tendered by the indictment. It is quite impossible that the jury should have misapprehended them. The prosecution had conducted the case upon the theory that the burden was upon him of maintaining as part of that issue the sanity of the prisoner. This further appears from his request. When anticipating that the jury might fail to find the greater offense, the District Attorney asked the court to charge that "if the jury find the wounds were inflicted by the prisoner, and that he was sane, etc., they could convict of an offense lesser in degree," and the court complied. Here, again, as well as in the preceding part of the charge, the sanity of the prisoner is made the necessary element in the definition of the crime; it therefore was not necessary to comply with the request of the prisoner's counsel and charge as requested by his second point. The substance of the request was embraced in the charge made, and the court could not be required either to repeat it or answer again to different portions as analyzed by counsel. We think the charge will not bear the conclusion on which the first point of the appellant rests, and, as the trial was conducted without error, that the conviction should be affirmed.

A few days later, on the 23d of January, James B. Graves was convicted of murder in Newark, New Jersey, the plea of insanity having been set up. The judge delivered an elaborate charge to the jury, in which he said that the law entertained no prejudice against insanity as a defense. It respected it, but insisted that it should be clearly proved that insanity existed. The burden of proof rested on the accused. The law presumed every man sane until he was proved insane. The judge continued:

Insanity is a disease and not a transient impulse of the mind, and manifestations of the existence of the

disease, before and after the commission of the deed, would naturally be expected. Many of the forms and degrees of mental disease which in the judgment of learned men would be regarded as insanity are utterly rejected by the law in the administration of criminal justice. The law regards insanity as a disease of the mind, implying fixedness and continuance of mental condition. It therefore rejects the doctrine of what is called emotional insanity, which begins on the eve of the criminal act and ends when it is consummated. The doctrine of moral insanity as a defense to a criminal accusation has been repudiated by an almost unbroken current of decisions as hostile to the principles of law and to the welfare of society. If the persons from whom the subjects of criminal law are derived should be permitted to prosecute their avocations because they are such as their moral propensities have led them to adopt, the object of organized society—the preservation of life and property—would be defeated. Stripped of its high-sounding name, moral insanity is wickedness, depravity. Laws are made and courts are established for the suppression of crime begotten of such causes, and therefore moral insanity—crime excused on the ground of defective or perverted moral sense—has no place in the criminal law. Furthermore, the law not only considers insanity, when offered as a defense to a criminal charge, as a disease of the mental faculties, but it also prescribes the degree of the mental disorder or disease which shall be exacted as the condition on which a defense of insanity shall be allowed, for it is not every kind nor every degree of insanity that will render a man irresponsible for acts of atrocity. The law does not require as the condition on which criminal responsibility shall follow the commission of crime the possession of one's faculties in full vigor or a mind unimpaired by disease. The mind may have been so weakened by disease as not to be capable of realizing the enormity of the crime, or may have become so irritable and excitable through a life of degrading vice and sensual indulgence as to induce an undue resentment of injuries and insults, and yet the accused will be criminally responsible for his acts. To establish a defense on the ground of insanity it must be clearly proved that at the time of committing the act the accused was laboring under such a defect of reason, from a disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that what he was doing was wrong. If an accused has sufficient mind to know the difference between right and wrong with respect to the act which he is doing, and to control his conduct under ordinary circumstances, he can not discharge himself from responsibility by showing that he did the act under the influence of an irresistible impulse.

(For the charge of Judge Cox in the Guiteau case, see GUITEAU'S TRIAL.)

INTEROCEANIC CANAL. See (PANAMA CANAL.)

INTERNATIONAL MONETARY CONFERENCE. (See BI-METALLIC STANDARD.)

IOWA. The vote for President in 1880 was: for the Garfield electors, 183,927; Hancock electors, 105,845; Weaver, 32,701; Dow, 592.

The Greenback State Convention of the present year assembled at Marshalltown on the 1st of June, about 250 delegates being present. The nominations were as follows: For Governor, D. M. Clark, of Wayne County; Lieutenant-Governor, Hon. James M. Holland, of Henry County; Supreme Judge, Hon. A. B. Dabney, of Madison County; Superintendent of Public Instruction, Mrs. Mary E. Nash, of Des Moines. The following platform was adopted:

1. The right to make and issue money is a sovereign constitutional power to be maintained by the people

for the common benefit. We demand the abolition of all banks of issue, and the substitution of full legal-tender greenbacks in lieu of their notes.

2. We oppose the refunding of the national debt or the issue of interest-bearing non-taxable bonds upon any pretext, and demand the payment and destruction of those outstanding at the earliest possible moment.

3. We demand a gradual income-tax whereby capital shall bear a just share of the public burden.

4. We regard the act substituting a railroad commission for laws governing freight rates in this State, a fraud procured by the railroad companies through a Republican Legislature, and demand its repeal. While we favor liberal national appropriations for the creation and improvement of water-ways, we demand laws protecting the people of Iowa from discrimination, pooling, watering of stock, drawbacks, or rebates, and all unjust charges on the part of railroads, until such time as the people, who built most of these roads with land-grants, taxes, and subsidies, shall own and officiate or fully control them.

5. We demand a revision of our patent-right laws, placing a fair limit upon the royalties of inventors, and protecting the people from injustice.

6. We demand that all land grants forfeited by reason of the non-fulfillment of conditions by railroad companies shall be at once reclaimed by the Government, and henceforth that the public domain be reserved exclusively for homesteaders or actual settlers.

7. We demand absolutely democratic rules for the government of Congress and State Legislatures, placing all representatives of the people upon an equal footing, and taking from all committees a veto power upon proposed legislation.

8. We demand the repeal of the restrictions of the right of suffrage in many States or its abolition in the District of Columbia, and demand equal political rights for all men and women.

9. Believing that all questions affecting the public interest should be directed by the people, we favor the submission of the proposed constitutional amendment to the popular vote.

10. We demand that all ballots in this State shall be of uniform size, color, and material, and that each party having a State organization shall have one member on the Election Board of each township and precinct.

11. In the furtherance of these ends we ask the co-operation of all men and women, without regard to previous party affiliation or prejudice.

Resolutions were also passed extending the sympathies of the convention to the Land League of Ireland, and to all down-trodden people of the whole globe; thanking Governor Plaisted, of Maine, for his veto of the bill by the Maine Legislature to incorporate a State Bank; and favoring the election of the President and Vice-President and United States Senators by a direct vote of the people.

The Democratic State Convention met in Des Moines June 16th, seventy-four counties being represented by over four hundred delegates. The following platform was adopted:

The Democratic party of Iowa, assembled in convention, reaffirms the national platform of 1876 and 1880; demands strict economy in all public expenditures, the strict accountability of all public servants, and declares:

1. For tariff reform ultimating in a simple revenue system with commercial freedom as its issue.

2. That we oppose all sumptuary laws, and the proposed prohibitory amendment to the Constitution in all its steps and stages, as the most offensive form of sumptuary legislation.

3. That the great agricultural and producing interests of the country should be emancipated from the

burdens of monopoly put upon them by Republican rule, and, as a feature of such relief, for the cheapening of transportation by Government appropriation for and improvement of the Mississippi River with its navigable tributaries and other water-ways.

4. That we execrate the constant official corruption grown into an invariable Republican practice, and that the demand of our national platform for civil-service reform is fully emphasized by the amazing spectacle of Republican factions disturbing the public peace not by agitation of great measures of statesmanship, but by a vulgar quarrel over a partition of public spoils and a squabble for the opportunities of official theft.

The nominations were as follows: For Governor, L. G. Kinne, of Yama County; Lieutenant-Governor, J. M. Walker, of Polk County; Supreme Judge, H. P. Hendershott, of Wapello County; Superintendent of Public Instruction, Professor W. H. Butler, of Delaware County.

The Republican State Convention met also in Des Moines on the 28th of June, over one thousand delegates being present, and every county represented. Buren R. Sherman was nominated for Governor after twelve ballots. For Lieutenant-Governor, O. H. Manning, of Carroll County, was nominated; for Supreme Judge, Austin Adams, of Dubuque, was renominated. The nominee for Superintendent of Public Instruction was Professor John W. Akers, of Linn County. The platform adopted by the convention was as follows:

We, the representatives of the Republican party of Iowa, demand of the people of the State anew their fullest confidence and support because of the faithfulness of the party in the State and in the nation to party pledges; because of the magnificent results it has achieved in the line of good government; because of the marvelous devotion it has shown in support of the Union; because of its abhorrence of slavery and polygamy, and of its successful efforts to crush the one and of its persistent struggle to get rid of the other, sure to go on to its final extirpation; because of its active interest in the relief of struggling and oppressed humanity everywhere; because of its determination to abolish all inequalities of citizenship, to give all men of all races and nationalities in this land equality of civil and political rights; because of its efforts to establish temperance, to educate the people, and to upbuild all moral forces; because it has been earnest in efforts toward honest and economical government, and has been swift to correct abuses when it has discovered them; because it has steadily maintained the financial honor of the nation, is rapidly discharging its great war debt, and has made the recent financial history of the government the marvel of the nations; because it has protected the labor of the country, and built up its agricultural and manufacturing interests, and promoted the means of internal commerce by judicious legislation; because it is positive and progressive, and will, in the future as in the past, prove its capacity to grapple promptly and successfully with every emergency of the nation, and with every question affecting the people's interests; and, finally, because it will secure a complete and lasting unification of the country, entire peace and concord, upon statute basis of free schools, free speech, a free press, and a free ballot.

In the spirit of the purpose that has redeemed former pledges and produced these results, the Republican party of Iowa resolves:

1. We reaffirm the Republican national platform of 1880, and insist upon its enforcement in its relation to the several affairs of the nation, the States, and the Territories, in order that sound policies shall prevail in the nation, and ample protection be afforded to its citizens in all of their rights of citizenship in the

several States; and that the Territories be made as absolutely free from the debasing presence and pernicious influences of polygamy as the States now are of slavery.

2. We congratulate the country upon the election of James A. Garfield, and the national Administration upon the vigorous manner in which it has undertaken to ferret out fraud and suppress extravagance in public expenditures, to secure the personal and commercial rights of our people abroad, to deal justly with the Indian wards of the Government, and upon the conspicuous success of its financial policy.

3. That we are in hearty sympathy with the spirit of recent conventions for supplementing and improving the great water-routes of the nation, and cordially indorse all measures which look toward a practical and judicious improvement of the magnificent water-ways which Nature has afforded us for cheaply transporting the immense commerce of the State, and therefore developing the immense resources of the interior of our national domain.

4. That we recognize railways as one of the most potent agencies in our national progress, but one which, by reason of its relation to the people, must be kept subordinate to the interests of the people, and within the legislative control of Congress and the State; that in the spirit of its usefulness it must be dealt with in fairness and without injustice. But we are in accord with the popular demand, that unquestionable legislative power shall be used to protect the people from any abuse and unjust exactions.

5. That the plenary power of Congress over the subject of patents should be so exercised as to protect the people against the wrongs and abuses which have been developed and are practiced under the present system of laws relating to patent rights, and we ask our Senators and Representatives in Congress to lend their best efforts toward the accomplishment of this end.

6. That the position attained in our commerce by American meats and live animals demands the enactment of effective legislation by both the nation and the States for the suppression of such diseases as are calculated to interfere with this important feature of our foreign trade.

7. That in pursuance of the uniform justice of the Republican party to observe the pledges and perform the promises made and given in its platforms, we declare that the provisions in the platform of 1879, for the submission of the so-called prohibitory amendment of the Constitution of Iowa to a vote of the people at a special and non-partisan election, should be enforced, in order that the good faith of the party may be maintained, and that the people in this government of the people, by the people, and for the people, may have an opportunity to express their wishes concerning the pending amendment, regardless of party affiliations and with perfect freedom from all party restraint and influence.

The election in October resulted in the choice of the Republican candidates. The vote for Governor was as follows: Sherman, 133,323; Kinne, 73,395; Clark, 28,146; William Johnson (Anti-Secret Society), 191.

The Legislature was constituted as follows: Senate, 45 Republicans, 2 Democrats, 2 Greenbackers, and 1 Independent; House, 70 Republicans, 22 Democrats and 6 Greenbackers. The finances of the State are in a favorable condition. At the beginning of the biennial period ending September 30th there was no money in the general revenue fund of the State. During the term that fund received \$2,126,900.90. There was disbursed \$2,035,050.39, leaving a balance on hand in general revenue of \$91,850.51. The warrants drawn

against general revenue amount to \$1,940,249.-87. In addition there was paid for interest on warrants \$10,063.45, which makes the aggregate cost of carrying on the government of the State for the term, \$1,950,323.32, leaving an excess of receipts over expenditures of \$176,-587.58 in general revenue.

The amount of warrants outstanding on September 30th was \$22,093.74, as against \$96,-993.54 two years before.

The war and defense debt has been paid, except the warrants for \$125,000 negotiated by the Executive, Auditor, and Treasurer, under the law of the Eighteenth General Assembly, and \$2,500 of the original bonds not yet presented for payment. The only other debt owing by the State amounts to \$245,435.19, due to the permanent school fund, a portion of which is made irredeemable by the Constitution. These facts place Iowa practically among the States which have no debt. The expenses of the State for the past two years are less than those of any other period since 1869, and this notwithstanding the fact that the State is to-day sustaining several institutions not then in existence, namely, the Hospital at Independence, the Additional Penitentiary, the Normal School, and the Asylum for the Feeble-minded, besides the Girl's Department of the Reform School. The State also, at present, makes provision for fish-culture, for a useful weather service, for sanitary supervision by a Board of Health, for encouraging immigration to the State, for the inspection of coal-mines by a State Inspector, and liberally for the military arm of its government. These causes of increased expenditure are only partially offset by the largely reduced cost of supporting the Soldiers' Orphans' Home, although here a small additional expenditure is necessitated by the admission of indigent children to the Home. This diminished expenditure, notwithstanding the State's population has augmented over fifty per cent since 1869, argues an economical management of the affairs of the State government. The Auditor estimates that the expenditures for carrying on the State government during the current period will be \$1,787,850; and that the receipts of general revenue from all sources will be \$2,202,700, leaving a surplus of \$415,150, as available for extraordinary expenditures. The report of the Treasurer of the State shows that at the beginning of the biennial period there was in the State Treasury, of all funds, \$74,187.37; that the receipts for the period were \$2,514,262.08, aggregating \$2,588,449.45; and that the disbursements for all purposes were \$2,409,897.71, leaving a balance, at the end of the term, of \$178,551.74, belonging to the several funds as follows: Agricultural College endowment, \$84,104.72, coupon, \$329.85; permanent school, \$226.66; and general revenue as above, \$91.-850.51; which showing corresponds with that made in the Auditor's report. All the Agricultural College endowment fund except \$476

is invested in county, city, and school district securities, bearing interest at rates varying from five to eight per cent per annum. There are 20,468 volumes in the State Library. The State has an effective military force, consisting of two brigades, aggregating 2,282 men, well armed and uniformed.

The number of school-children reported is 594,750. Of this number 381,192 are, by approximation, between the ages of six and sixteen years. The number of all ages enrolled in the schools is 431,513. The average attendance is 254,088. The schools of the State have been in session, on an average, 148 days. The receipts for all school purposes throughout the State were \$5,006,023.60, and the expenditures \$5,129,279.49; but of these receipts and expenditures about \$400,000 was of money borrowed to refund outstanding bonds at lower rates of interest. The amount on hand aggregated, at the end of the fiscal year, \$2,653,356.-55. The Governor recommends the passage of a compulsory education law. The receipts of the State University were \$118,739.35; expenditures, \$114,159.13. The assets of the institution amount to \$233,100.26. Of the ninety-nine counties of the State, seventy-two are represented by students in the Agricultural College. Its endowment fund amounts to \$630,-315.05. There are doing business in the State sixty-six banks and over 140 insurance companies. Of public lands there remain unsold 619,264.69 acres, besides a number of town-lots. There was expended for the support of the Institution for the Deaf and Dumb, during the biennial period, the sum of \$70,568.17, and for the College for the Blind the sum of \$50,-183.15. The amount expended for the support of the Soldiers' Orphans' Home and Home for Indigent Children was \$33,429.85; Asylum for Feeble-minded Children, \$49,537.77; Hospital for the Insane at Mount Pleasant, \$177,203.-89; Hospital at Independence, \$150,792.86. In view of the fact that there are fully 1,500 insane persons in the State, the larger number of whom are incurable, and that about 500 of this number are not in the insane hospitals, but are maintained for the most part in county poor-houses, the erection of a hospital for Incurables in the central part of the State was contemplated. The amount expended for the support of the two departments of the Reform School was \$50,880.98. With respect to the State Prisons, the Governor says:

Has not the time arrived when the General Assembly should inaugurate a system of graded prisons, so that those who are convicted of the graver offenses and sentenced for longer terms, and those convicted a second time, should be imprisoned at Fort Madison, and those whose terms of service are shorter should be sent to Anamosa? It is certainly against the reformation of the young criminal who is imprisoned, perhaps for his first offense, to be brought into daily contact with those who are hardened in crime, and for whom there is little hope of reform. In my judgment, a much larger proportion of the younger class of criminals would, warned by their past experience, become good citizens when their term of service ex-

pires, than is the case at present, if it were not for the contaminating influence of older, vicious, and hardened convicts with whom they are compelled to work day by day, during their term of service. The theory of the law is that criminals are punished not only for the crime committed, but as an example to others. The reformation of the criminal is at the same time incidentally forwarded by means of opportunities for education, religious teachings, and consolation, and an ample supply of books, all of which accord with the true theory regarding the reclamation of criminals. Another step in a humanitarian direction would be, after the State has been reimbursed its outlay on account of the convict's crime, to allow him his proportion of the surplus earnings, over and above the cost of his support. It is not in accordance with the dignity of the State to make money out of the convict's labor, or to enter into competition with free labor.

The Governor also remarks :

During the past four years there has been brought to Iowa, under the auspices of humane societies, for the purpose of finding them homes, a large number of children of both sexes. These children have been picked up on the streets, kept in some charitable institution for a short time, and then sent West by the car-load, and bound out to our people. While the object sought by those managing this work is a good one, yet I am sorry to say that the results, in the main, are not such as could be desired. Many of these children are of the "hoodlum" type, criminals by heredity, and, almost immediately on their arrival in the State, leave the homes provided for them, and take to vicious practices, and, because of the superior acumen superinduced by their former method of living, exercise a bad influence on the children they are brought in contact with. A notable example of this was seen in the recent successful attempt to throw a train from the track of one of our principal railroads, whereby a valuable life was lost, and all the passengers on the train imperiled. How many of these children have been brought to the State I am not aware, but of those brought here there are at this time in the Reform School eight boys and one girl, and two are at present inmates of the Additional Penitentiary, and the warden informs me that he has had as many as ten at one time in confinement in that institution. This matter demands such legislative action as may be found practicable toward preventing the State from becoming a harbor for the criminal youth of the sea-board cities.

The number of convictions for crime during the biennial period was 2,451. This is a diminution, as compared with the prior term, when they numbered 2,979, of 16½ per cent, and with the term ended September 30, 1877, of 25 per cent. The amount of fines imposed for the period was \$137,707.33, and the amount collected was \$34,959.42. The court expenses of the ninety-seven counties making returns amount to \$715,035.48, being \$38,443.92 less than for the former period, a reduction of about 5½ per cent. The average cost of each conviction during the period was \$291.81.

The number of registered pharmacists in the State is 2,241. There are in operation 457 mines, employing 6,176 hands. Coal is mined in twenty-six counties. There are in the poor-houses of the State, or receiving aid in counties without poor-houses, 1,304 persons.

The amount of property insured against fire for the year 1880 was over \$102,000,000, on which the premiums paid were \$1,279,245.07. The amount insured under life policies for the same year was over \$28,000,000, costing the

policy-holders in premiums paid for that year \$127,091.66.

The construction of railways is rapidly increasing in Iowa. At present there is a mileage in the State of fully five thousand five hundred, and there is in process of construction and partially completed fully one thousand miles more. All of the counties in the State save two have railway facilities, and these will be reached by lines now in process of construction early in the spring of 1882.

Among the lines under construction during the year were the following :

ROADS.	Miles.
Des Moines and St. Louis.....	73
Des Moines Northwestern.....	80
Des Moines Northern.....	48
Des Moines, Osceola and Southern.....	53
Des Moines and Fort Dodge.....	50
Chicago, Milwaukee and St. Paul.....	270
Chicago and Northwestern.....	180
Burlington, Cedar Rapids and Northern.....	50
Keokuk and St. Louis.....	50
Wabash and Chicago, Burlington and Quincy, from Humeston to Shenandoah.....	80
Central of Iowa.....	60
Total.....	991

Drake University, to be located at Des Moines, has been incorporated. It will be under the control of the Christian denomination, and will absorb the former Oskaloosa College. It is intended for the education of both sexes. The total taxable property of the State amounts to \$418,481,472.50. Excluding Polk County, this is made up as follows: land and town-lots, \$295,016,392; personality, \$87,007,400; railroad property, \$25,356,073. The number and value of live-stock reported are as follows :

LIVE-STOCK.	Number.	Value.
Cattle.....	1,964,065	\$20,266,656
Horses.....	707,778	20,550,802
Mules.....	43,728	1,554,148
Sheep.....	436,806	543,295
Swine.....	2,224,651	4,404,610

The number of live-stock in 1875 was as follows :

Cattle.....	1,421,719
Horses.....	698,205
Mules.....	87,937
Sheep.....	724,204
Swine.....	3,086,161

Which shows a gain in every class of animals except sheep, which have been reduced 287,898 head.

The number of public schools is 11,244, of which 503 are graded; teachers, 21,776—6,546 male and 15,230 female; school-houses, 11,221, including 10,210 frame, 701 brick, 237 stone, and 73 log; volumes in district libraries, 26,757; value of school-houses, \$9,533,493; of apparatus, \$205,130. There are 137 private schools in Iowa, with 522 teachers, and 15,098 pupils. The total debt of the counties of the State amounts to \$2,745,678, of which the sum of \$2,592,222 is bonded. Of the counties, forty-one have no debt, fifty-two no bonded debt, and seventy no floating debt. The following figures show the progress of the State in manufactures :

YEARS.	Number of establishments.	Number of hands employed.	Amount of capital.	Amount of wages paid.	Amount of materials used.	Total products.
1850.....	582	1,707	\$1,292,875	\$478,016	\$2,356,881	\$3,351,733
1860.....	1,939	6,307	7,247,130	1,922,417	8,612,259	13,917,325
1870.....	6,566	25,032	22,420,182	6,893,292	27,682,696	46,634,322
1880.....	6,720	39,863	31,409,470	9,642,042	46,220,419	70,271,577

The prominent industries are: Agricultural implements, employing nearly 1,000 persons; brick and tile, over 2,500; flour and grist mill products, occupying nearly 3,000; lumber, almost 6,000; cheese and butter, in factories, nearly 1,000; slaughtering and packing, about 2,000 more, or some 15,000 persons in all.

According to the census of 1880, Iowa was the second among the States in the production of corn, yielding 276,093,295 bushels. Of wheat it produced 31,177,225 bushels. Of coal the product was 1,461,116 tons.

The following proposed constitutional amendment has excited considerable discussion: "No person shall manufacture for sale, or sell or keep for sale, as a beverage, any intoxicating liquors, including ale, wine, and beer."

It was adopted by the last Legislature, and must pass the next Legislature before it can be submitted to the people. It has been questioned whether it prohibits absolutely the manufacture for sale, or only the manufacture for sale as a beverage. The third annual jubilee of the temperance people of the State was held in July, when it was resolved to form a corporation to be called the State Prohibitory Amendment Association of Iowa, having for its objects "to procure the submission, adoption, and enforcement of the proposed amendment to the Constitution of Iowa prohibiting the manufacture and sale, within this State, of all intoxicating liquors as a beverage, including ale, wine, and beer."

The following resolutions were adopted:

The temperance people of Iowa, represented at this, our third annual jubilee, gratefully acknowledge the divine blessing upon the labors of the past, and hopefully proceed to plan and labor for a grander jubilee in the swiftly approaching future.

1. We rejoice in the general, permanent, and symmetrical development of the temperance work throughout the civilized world, and especially that, as in other things, so in this grand march of the nations toward prohibition, America, the "little child" in the family of nations, "shall lead them."

2. We rejoice that our younger sister among the Western States was the first to catch this spirit, and Kansas, under the leadership of her noble Governor, St. John, has been the first to respond to Maine, and has "prepared the way of the Lord," by kindling the first of the fires of constitutional prohibition upon the prairies of the West. And we rejoice the more that, when the whisky ring invoked the aid of the Supreme Court in quenching these fires, that honorable body found it in neither their heads nor their hearts to relieve the distress of those devotees of drunkenness and ruin.

3. We rejoice that the dominant political party in our State did, at its convention recently held at Des Moines, enthusiastically reaffirm its action favoring the submission of the amendment to a vote of the people, and did nominate as its standard-bearer a candidate pledged in advance in favor of such submission; and that another political party, honorable in its

membership and respectable in its numbers, has also sounded the trumpet of "prohibition" with no uncertain sound; while, as we have reason to feel assured, there are thousands of members of the only other political party in the State who are our peers in their hostility to the liquor-traffic, and will stand shoulder to shoulder with us at the polls in support of the proposed amendment.

4. We rejoice in the success that has crowned the labors of our "Woman's Christian Temperance Union," not only in instructing and guarding the young, but also in reforming drinking men, and throwing around them influences helpful and beneficent; and we hail them as honored coadjutors, worthy to be, and who ought to be, our equals in every word and work that tends to the world's advancement.

While thus rejoicing over the past, we recognize the magnitude of the work before us, and address ourselves thereto, believing it to be self-evident that, while distillers, brewers, liquor-dealers, saloon-keepers, gamblers, and keepers of dens of vice, oppose prohibition; all churches, all benevolent organizations, all who are interested in the education and elevation of society, and every individual engaged in any lawful and respectable business, ought to sustain prohibition by voice, vote, and uncompromising, invincible labor. Therefore,

Resolved, That we go from this convention determined and pledged to work and vote for such candidates for the office of Senator and Representative, and only such, as are clearly and unequivocally pledged to vote and work for the submission of the prohibitory amendment to a vote of the people, as proposed by the last General Assembly—holding that a refusal to submit to a vote of the people any proposed constitutional amendment, when demanded by so large a number of the electors of a State, savors of disloyalty to the principles of our government and to the rights of a free people.

Resolved, That, in furtherance of this purpose, we will push forward the work of organization for a thorough canvass of every county, township, ward, district, and individual in the State, seeking to impress the individual with the disaster that may fall upon his own home as the result of his single vote.

Resolved, That we highly esteem the valuable services of the press, both religious and secular, and in particular do we recognize the importance of well-sustained State temperance organs. We therefore commend "The Prohibitionist," published at the capital of the State, and the "Northwestern News," published at Davenport, to the special attention and patronage of all friends of temperance.

Resolved, That we commend the wisdom of the organization of a lecture bureau, under the control of a committee heretofore chosen by this body, and charged with the duty of supplying the field with competent and worthy workers, and at the same time guarding the public against impostors and incompetent pretenders.

Resolved, That regarding this as an irrepressible conflict, so long as the demon of the liquor-traffic lifts its head upon our soil, we go forth to this contest using every arm and munition heaven's arsenal affords, especially the gospel, the law, moral suasion, and scientific instruction. Confiding in these forces, aided and energized by the power of our God, we SHALL CONQUER.

A convention of brewers, called to concert measures to defeat the proposed amendment,

met January 19th, and adopted the following resolutions:

Whereas, The enemies of personal liberty are constantly increasing their efforts to ingraft upon the statute-book of this State more laws with reference to the manufacture and sale of all liquors, the provisions of which are notoriously unjust and tyrannical; and,

Whereas, An amendment to the Constitution of the State of Iowa, prohibiting the manufacture and sale of all liquors, including beer and wine, is now pending and will be brought upon its final passage before the next General Assembly; therefore, be it

Resolved, That in the face of the existing and coming dangers to our business and to the continual encroachments upon the rights and individual properties of the citizens of this Commonwealth, we deem it the highest duty of all persons engaged in the sale or manufacture of distilled or fermented liquors in this State to unite themselves for the purpose of defending liberty and property as guaranteed to us by the Constitution of the State of Iowa.

Resolved, That this convention proceed to organize a State Protective Association, embracing all re-

spectable persons engaged in the manufacture or sale of liquors.

Resolved, That the members of this association are hereby pledged to use all just and honorable means to secure the election of only such men to the Legislature as are opposed to all sumptuary and prohibitory laws, regardless of their party affiliations.

There are 120 breweries in the State, which in 1880 manufactured 252,000 barrels of beer, on which a tax of \$252,000 was paid. In these breweries more than 1,000 people are employed. The buildings, etc., represent a capital of \$2,840,000; machinery, apparatus, barrels, tubs, etc., an average value of \$1,500,000; all these figures aggregate a total of \$5,840,000. The wages for employ  s paid by the brewers amount to \$720,000.

According to the final returns of the census of 1880, the population, by counties, as compared with the returns of 1870, is as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adair.....	11,667	3,982	Floyd.....	14,677	10,768	Monona.....	9,055	3,654
Adams.....	11,888	4,614	Franklin.....	10,249	4,788	Monroe.....	13,719	12,724
Allamakee.....	19,791	17,868	Fremont.....	17,652	11,174	Montgomery.....	15,895	5,984
Appanoose.....	16,636	16,456	Greene.....	12,727	4,627	Muscatine.....	23,170	21,688
Audubon.....	7,448	1,212	Grundy.....	12,639	6,399	O'Brien.....	4,155	715
Benton.....	24,883	22,454	Guthrie.....	14,394	7,061	Osceola.....	2,219	.....
Black Hawk.....	23,913	21,706	Hamilton.....	11,352	6,055	Page.....	19,667	9,975
Boone.....	20,883	14,584	Hancock.....	3,453	999	Palo Alto.....	4,131	1,336
Bremer.....	14,081	12,523	Hardin.....	17,807	13,654	Plymouth.....	8,566	2,199
Buchanan.....	18,546	17,034	Harrison.....	16,649	8,931	Pocahontas.....	8,713	1,446
Buena Vista.....	7,537	1,585	Henry.....	20,986	21,463	Polk.....	42,395	27,557
Butler.....	14,293	9,951	Howard.....	10,837	6,252	Pottawattamie.....	39,850	16,893
Calhoun.....	5,595	1,602	Humboldt.....	5,341	2,596	Poweshiek.....	18,936	15,581
Carroll.....	12,351	2,451	Ida.....	4,382	226	Ringgold.....	12,085	5,691
Cass.....	16,943	5,464	Iowa.....	19,221	16,644	Sac.....	8,774	1,411
Cedar.....	18,936	19,731	Jackson.....	23,771	22,619	Scott.....	41,266	38,599
Cerro Gordo.....	11,461	4,722	Jasper.....	25,963	22,116	Shelby.....	12,696	2,540
Cherokee.....	8,240	1,967	Jefferson.....	17,469	17,839	Sioux.....	5,426	576
Chickasaw.....	14,534	10,180	Johnson.....	25,429	24,398	Story.....	16,906	11,651
Clarke.....	11,513	8,735	Jones.....	21,052	19,731	Tama.....	21,565	16,131
Clay.....	4,248	1,523	Keokuk.....	21,258	19,434	Taylor.....	15,635	6,989
Clayton.....	23,829	27,771	Kossuth.....	6,178	3,351	Union.....	14,950	5,986
Clinton.....	36,763	35,357	Lee.....	34,359	37,210	Van Buren.....	17,043	17,672
Crawford.....	12,413	2,590	Linn.....	37,237	31,050	Wapello.....	25,235	22,346
Dallas.....	18,746	12,019	Louisa.....	13,142	12,377	Warren.....	19,573	17,980
Davis.....	16,463	15,565	Lucas.....	14,530	10,383	Washington.....	20,374	18,952
Decatur.....	15,336	12,018	Lyon.....	1,968	221	Wayne.....	16,127	11,287
Delaware.....	17,950	17,432	Madison.....	17,224	13,884	Webster.....	15,951	10,484
Des Moines.....	33,099	27,256	Mahaska.....	25,202	22,508	Winnebago.....	4,917	1,562
Dickinson.....	1,901	1,359	Marion.....	25,111	24,436	Winneshek.....	23,988	23,570
Dubuque.....	42,996	33,969	Marshall.....	23,752	17,576	Woodbury.....	14,996	6,172
Emmet.....	1,550	1,392	Mills.....	14,137	8,718	Worth.....	7,923	2,592
Fayette.....	22,253	16,973	Mitchell.....	14,363	9,552	Wright.....	5,062	2,392
State.....							1,624,615	1,194,020

ISLAM, THE FUTURE OF. Mr. Wilfred S. Blunt, who spent several months in 1880 and 1881 in Jiddah, the sea-port of Mecca, and in Egypt and Syria, in the almost exclusive society of Mussulmans, for the purpose of observing the tendencies of Mohammedan thought and of studying the prospects for the future of the faith of Islam, gives an estimate as to the approximate census of the *Haj*, or pilgrimage to Mecca, and of the population of the Mohammedan world, which will be found in the table on the following page.

The numbers included in the four great sects are roughly given as follows:

1. The Sunnites, or Orthodox Mohammedans..... 145,000,000
2. The Shiites, or sect of Ali..... 15,000,000
3. The Abadites (Abadhiyeh)..... 7,000,000
4. The Wahabites..... 8,000,000

All of these sects hold in common to the four fundamental beliefs of Islam, viz.: A belief in one true God, the creator and ordainer of all things; 2. A belief in a future life of reward and punishment; 3. A belief in a divine revelation imparted first to Adam, and renewed at intervals to Noah, to Abraham, to Moses, and to Jesus Christ, and, last of all, in its perfect form, to Mohammed—a revelation not of dogma only, but of practice, which has taught a universal rule of life for all mankind, in politics and legislation, as well as in doctrine and morals; and, 4. A belief in the Koran as the literal word of God, and in its inspired interpretation by the Prophet and his companions, preserved through tradition (Hadith). On other points, however, both of belief and practice,

TABLE OF THE MECCA PILGRIMAGE OF 1880.

NATIONALITY OF PILGRIMS.	Arriving by sea.	Arriving by land.	Mussulman population represented.
Ottoman subjects, including pilgrims from Syria and Irak, but not from Arabia proper.....	8,500	1,000	22,000,000
Egyptians.....	5,000	1,000	5,000,000
Mongrebbins, "people of the West" (Arabic-speaking Mussulmans from the Barbary States)	6,000	.....	18,000,000
Arabs from Yemen.....	3,000	.....	2,500,000
Arabs from Oman and Hadramaut.....	3,000	.....	3,000,000
Arabs from Nejd, Assir, and Hasa, most of them Wahabites.....	.....	5,000	4,000,000
Arabs from Hejaz, of whom perhaps ten thousand are Meccans.....	.....	22,000	2,000,000
Negroes from Soodan.....	2,000	.....	10,000,000(?)
Negroes from Zanzibar.....	1,000	.....	1,500,000
Malibari from the Cape of Good Hope.....	150	.....	.....
Persians.....	6,000	2,500	8,000,000
Indians (British subjects).....	15,000	.....	40,000,000
Malays, chiefly from Java, and Dutch subjects.....	12,000	.....	30,000,000
Chinese.....	100	.....	15,000,000
Mongols from the kbanates (pilgrims included in the Ottoman <i>Haj</i>).....	.....	.....	6,000,000
Lazis, Circassians, Tartars, etc. (Russian subjects, but included in the Ottoman <i>Haj</i>).....	.....	.....	5,000,000
Independent Afghans and Beloochees (included in the Indian and Persian <i>Hajs</i>).....	.....	.....	3,000,000
Total of pilgrims present at Arafat.....	93,250		.....
Total census of Islam.....	.....		175,000,000

they differ so widely that they must be considered as not only distinct from, but hostile to, each other; but not so irreconcilably so but that they all allow the rest to be distinctly within the pale of Islam, and will pray on occasion in each other's mosques, and kneel at the same shrines on pilgrimages.

The Sunnite, the orthodox and predominant sect of Islam, is subdivided into three considerable sects or schools of theology. The Hanefite sect, which is most largely represented in the pilgrimage, is the school to which the whole Osmanli race and the official classes, including the vice-regal courts of Egypt, Tripoli, and Tunis, and the courts of most of the Indian princes, are attached. It is the most conservative of the sects, and holds, according to the expositions of the Turkish Ulema, that the elaboration of new doctrine is absolutely closed, and that nothing can be added to or taken away from the already existing body of religious law. It has, however, become extremely lax as to practice.

The Malekite sect is "puritanical, fierce in its dogma, severe in its morals," and embraces the most fervent and most fanatical of the believers—men of ostensible and sincere piety, who "represent more nearly than any other Mussulmans the ancient earnestness of the Prophet's companions." It includes the Arabian and African tribes west of the Nile, and the Fellahin of the Delta. It also believes that inquiry has been closed, and change is impossible.

The Shafite sect is the most numerous, and embraces most of the Arabs out of Africa, the mass of the Mussulman population in India, at least where Arabian influence prevails, and the Malay Mohammedans. The Shafites appear disposed to widen rather than narrow the area of theology, are more humane than the other sects in their bearing toward infidels, "finding a common ground with them in the distinction between right and wrong," entertain ideas of a moral reformation, and appear to feel, without being willing to admit it, an indefinite desire

to see Islam united once more, even at the expense of some dogmatic concessions.

A fourth sect, the Hanballite, is included among the Sunnite bodies, but it now has only a few followers.

The Shiites number, outside of Persia, one million Irâki Arabs, five million in India, a few in Syria and Afghanistan, and isolated groups near Medina and in the large cities of the West. They refuse to tolerate the pretensions of any one now in authority to the title of Imam and Caliph, but hold it in abeyance, awaiting the advent of the Mohdy, or leader, who is to reunite Islam; and a belief is said to prevail among them that reform is at hand, and the leader may be expected at any moment and from any quarter. The religious bitterness between this division of Islam and the Sunnites has sensibly declined within the last fifty years.

The heretical sect of the Abadhiyeh are found only in Oman and Zanzibar. They simply reject all communion with the Sunnites, and deny all Khalifal history and authority later than the reign of Omar, as well as all the later traditions. Allied to them are the Zeidites of Yemen, whose sympathies lie on the side of liberality of opinion and reform in morals, but whose sole importance, their numbers being few, lies in their geographical proximity to Mecca.

The Wahabite movement has failed as an effort to regenerate the Mohammedan world politically, but the spirit of reform it awakened has remained, with effects that may be seen in the present unquiet attitude of expectation in Islam—its indirect result. In Arabia the zeal of the Wahabites has declined, and has given place to liberal ideas.

The Chinese Mohammedans are scattered and isolated, and can not well be placed in any of the general groups.

The relative numerical inferiority of the Ottoman Mohammedans is strikingly exhibited in the census-table. Ottoman thought appears in quite as subordinate a position when Islam is viewed in perspective. This was exemplified

in Mr. Blunt's observations at Jiddah, where every race and language and sect of Mohammedanism are represented in the throngs of pilgrims, and where the stranger hears discussed on every side the politics of the great world; where "the religion professed is that of a wider Islam than he has been accustomed to in Turkey or in India," and where his view of Islam becomes suddenly enlarged. And Mr. Blunt owns "to having come away with more than a gratified curiosity, and to having found new worlds of thought and life in an atmosphere I had fancied to be only of decay. I was astonished at the vigorous life of Islam, at its practical hopes and fears in this modern nineteenth century, and, above all, at its reality as a moral force."

Nevertheless, the Sultan assumes to be Caliph of the whole Mohammedan world, and his title is tacitly conceded by the mass of the Sunnite sect. According to the orthodox doctrine, a caliph is essential as the *ex-officio* head of the religious polity of Islam, and as the successor of the Prophet. Whoever holds the office is theoretically king over all Islam, and its supreme religious authority in spiritual matters; although, practically, his temporal jurisdiction can only extend to such lands as he can hold by arms; and the Sultan has not for many centuries exercised any direct authority in spiritual matters. The Sultan derives his title as Caliph from Selim I, who, having captured and beheaded the reigning Mameluke Sultan of Egypt, in 1517, acquired from a descendant of the house of Abbas, whom he found living as titular Caliph at Cairo, a cession of his rights. One of Selim's successors obtained from the Ulema a decision that his title was valid, because he held it—1. By the right of the sword—until a claimant with a better title should appear; 2. By election, the form of which is still kept up; 3. By nomination, derived from the original cession to Selim; 4. By virtue of the guardianship he exercises over the two shrines (at Mecca and Medina); and, 5. By virtue of his possessing the *Amanat*, or sacred relics. These claims, however, do not rule without being passively disputed. The Emperor of Morocco claims himself to be the Caliph, as the representative of that ancient schism of Cordova which took place in the second century; but the limited extent of his dominion and his remoteness from the center of Mohammedanism prevent his claim from being effectively heard. Of more importance are the claims of the princes of the house of Koreysh, at Mecca, which are supported by the fact of descent from Ali Ibn Abutaleb, the fourth Caliph, and through his wife, Fatmeh, from Mohammed himself, and are centered in the Grand Shereef of Mecca, as the ostensible head of the house. The Sultan does not venture to dispute the claim, but buys it off, and has established thereby one of the strongest facts which he is able to use in support of his own exercise of the powers of Caliph. The Shereef of Mecca has no political

strength, and needs the support of some stronger power to defend him against the hostile Arabian tribes of Nejd, and to protect the pilgrim routes to Mecca, on the freedom of which, and the consequent continued coming of pilgrims, his prosperity depends. The Sultan affords the required protection, and, in addition, transmits annually to the Shereef the revenues of the Vacouf within the Turkish Empire, which are supposed to amount to nearly half a million pounds sterling. In return he is acknowledged as sovereign, and enjoys undisturbed power and patronage, except in Mecca itself; and also holds the power of removal and nomination of the Shereef, provided he always selects that officer from the shereefal family. "Either hates and despises the other, the patron and the patronized; and, save that their union is a necessity, it would long ago have, by mutual consent, been dissolved."

The internal movements of recent years in Turkey and in the whole Mohammedan world have turned very largely upon the position of the house of Othman in relation to the caliphate. Sultan Abdul-Aziz, in the early part of his reign, eagerly took up with a suggestion that his strength and Turkish influence might be greatly increased by putting the spiritual authority of the Sultan as Caliph more prominently forward. The Ulema readily agreed to the scheme, and enthusiastically entered into the prosecution of it. Missionaries were sent out to propagate in all the Mohammedan states the doctrine of the Sultan's spiritual leadership. The party of "Young Turkey," with Midhat Pasha, accepted the central idea of the plan, and labored to secure its realization in a modified form, the prominent feature of which was the separation of the political power from the spiritual functions of the Caliph. With this object, they sought to establish a constitutional parliamentary system of government, in which a ministry should assume the charge of temporal affairs and be responsible for their management, leaving the Sultan, still the nominal head of the state, to be occupied pre-eminently with his ecclesiastical duties. Abdul-Aziz proved to be incompetent to carry out this enterprise on which he had apparently started well, became an impediment to it, and was deposed. Abdul-Hamid was better fitted to the purposes of the Ulema, and seemed more capable of carrying them out, but, before he was able to accomplish anything in that direction, the prestige of Turkey as a power was nearly destroyed by its defeat in war, and a new difficulty of the most formidable character had to be met. Abdul-Hamid and those who are co-operating with him have not, however, given up their scheme, but are still using every effort to promote it.

In the mean time a new scheme, in which Midhat Pasha is credited with being a prominent mover, has been started among the Arabians and the Mohammedans who are not friendly to Turkish rule, for the erection of a

caliphate distinct from and independent of the Ottoman sultanate. This was the central idea of the agitation which prevailed in Syria while Midhat Pasha was governor there; it is the practical motive to which life is given by the expectancy shared by all the Arabs of the speedy coming of a Mohdy or guide who is to appear as a chief to unite and purify Islam and restore its prestige; and it is a paramount object of the rising of the tribes which is threatened in North Africa, and which is believed to be directed as much against Turkish authority as against European aggression.

A correspondent of the London "Times," who appears to have gained a fairly intelligible view of the intrigues of the Ottoman court, has written to that journal from Constantinople, January 12, 1882, an account of the consultations that are going on within the palace of the Sultan relative to the declaration of the Ottoman caliphate. At the Sublime Porte all is still outwardly European in its aspect; but at the imperial palace Asiatic methods and Pan-Islamic thought prevail, and it is here that the radical transformation which Turkish statesmanship has undergone during the present Sultan's reign must be studied. The object of raising Turkey to an honorable place among the European powers, and making Constantinople one of the great European capitals, which had guided Turkish diplomacy for the fifty years previous to the beginning of the present reign, has been exchanged for that of making the Ottoman Empire the nucleus of a new universal caliphate, and Constantinople the political center of the Mohammedan world; and the Sultan draws his inspiration from men who are in sympathy with this ambition, and seeks European advice only so far as he can use it to assist him in accomplishing its object. According to this writer, whose view does not otherwise differ from those of other observers, the project of a united Islam under the Ottoman caliphs dates from the present reign; and the patriotism of Abdul-Aziz and the party of Young Turkey was of a Turkish, not of a Mohammedan, kind. As long as it appeared possible or probable that Turkey would continue to be able to find a patron among the Christian powers, the Turks were willing to be satisfied to have affairs go on in the old traditional way; and it was not till the Russian Government had displayed its real policy in the Treaty of San Stefano, and the Congress of Berlin had shown that Turkey had no longer any Christian protector, that the Turks began to feel that they had nothing to hope from Christendom, and the ground was prepared for Pan-Islamist theories. Under the indignation that was excited against the Sultan and his dynasty for the destruction of Turkish prestige under their rule, a plan was formed for the elevation to the caliphate of the Shereef of Mecca. In order to forestall suspicion, the scheme was communicated to the Sultan in a disguised form, in which its real aim was concealed be-

neath a pretense of working for an Islamitic union under the sovereignty of the Sultan. Abdul-Hamid, whose capacity is recognized and appreciated by all observers of Turkish affairs, detected the real nature of the scheme, and, dexterously checkmating his enemies, turned it to his own advantage by putting himself at the head of it. He enlisted, to aid him in carrying it out, Sheik Zaffer, a Tripolitan, who had long been his spiritual director; Munif Effendi, now Munif Pasha, who had been Minister of Public Instruction; Abdul Huda, a young sheik of an old Aleppine Arab family; Ghazi Osman, the hero of Plevna; and Behram Aga, the chief eunuch. Schemes for reforming and renovating the native institutions in accordance with certain old principles were undertaken and abandoned; after a short trial under the administration of Khairredin Pasha. Plans for extending the influence of the country to foreign populations were pressed more vigorously and persistently. Personages of distinction in all parts of the Mussulman world were encouraged to visit Constantinople, and received there a liberal hospitality and marked consideration. The agents who were sent abroad in the interest of the scheme were received with favor in the most distant countries. The Mussulmans of India were well impressed with it, and a special organ in the Urdu language, called the "Peik Islam," was founded at Constantinople to keep them informed respecting it. In Afghanistan the propaganda was encouraged by England; and the special envoy of the Sultan, who was sent to Cabool to warn Shere Ali against too intimate relations with Russia, told, on his return to Constantinople, how the people had crowded around him in order to have the honor of touching the garment of an envoy of the Caliph. The scheme was resisted for a time by the Shercef Hussein of Mecca and the Khedive of Egypt, but these princes were put out of the way, the former by assassination, the latter by deposition. Since then the idea of the caliphate has made rapid progress on the eastern coast of the Red Sea and in the valley of the Nile. The dispositions of the people of the land which formerly composed the Western Caliphate were at first adverse, but were changed by the French invasion of Tunis, which "aroused the dormant hatred of the infidel, and transformed from a harmless theory into a very dangerous reality the Sultan's caliphal pretensions with regard to Northern Africa." The danger of these pretensions, in the view of the correspondent of the "Times," does not lie in any probability of the Sultan being able to create a vast Pan-Islamic empire, but in the possibility that the Mussulmans who live beyond the limits of the Ottoman Empire, and who owe allegiance to sovereigns other than the Sultan, should be brought under the influence of Constantinople, and that this influence should be used at critical moments to produce popular sedition and insurrection—a possibility that has

already become real in Tunis and Southern Algeria.

Both these movements—the one that aims to extend and develop the spiritual authority of the Sultan, and that which aspires to the erection of an independent caliphate—contemplate a union of the Mohammedan world, and may equally be called Pan-Islamic: the question as to which party will prevail must be one of physical force, for the Sultan's title to the caliphate avowedly rests solely upon his ability to maintain it thus. The parties opposed to the Sultan labor under the disadvantage of not being united under any single leader, and of having their forces scattered. The Shereef of Morocco advances a claim to the title; and a chief has arisen in Tripoli who claims to be the expected leader of the Mohammedan prophecies, and promises to reveal himself openly to the world on the 12th of November, 1882. This leader, who is called El Mehdi, is the sacrosanct head of the Sennoussia community, which is said to have hundreds of monasteries in North Africa, and even in Arabia and Syria, and to be obeyed by Mohammedan tribes of the desert whose very names are unknown to Europeans. The prophecy of which he aspires to accomplish the fulfillment is believed to have been drawn up by Sennoussi, the Algerine Moor—a shereef or descendant of the Prophet—who founded in 1850 the great organization which now disputes with the Turks the sovereignty of Southern Tripoli, and which supplies the material resources for the resistance offered by the Tunisian tribes to the Turkish invasion. It has been circulated for several years through the Moorish-Mussulman world, and predicts that “on the 1st of the month of Mohassan, in the year 1300 (November 12, 1882), will appear the El Mohdy, or Messiah. He will be exactly forty years of age, and of noble bearing. One arm will be longer than the other; his father's name will be Mohammed, his mother's Fatima, and he will be hidden for a time prior to his manifestation.” The Tripolitan El Mehdi has the physical peculiarity referred to, his right arm reaching to his knee, and he has for four years been hidden from all eyes in a religious retreat. Another chief has risen in Soodan. The Khedive of Egypt is believed to be willing to aspire to the position of a leader if an opportunity should be offered him; and the followers of Colonel Arabi, in the same country, are said to be earnestly watching for the deliverer. The family of the Shereef of Mecca have the vast advantage over any other possible competitors to the supreme title of Islam that they are of the acknowledged blood of that tribe of Koreysh which Mohammed himself designated as his heirs, and “are surrounded with a halo of religious prestige which would make their acquisition of the supreme temporal title appear natural to all but the races who have been in subjection to the Ottomans.”

The Sultan, who is said to acknowledge the

superior rank of the shereefs on ceremonial occasions, is well aware of this fact, and has therefore always taken particular pains, by subsidies, by fostering family feuds, by personal selection of the shereefs, and by influence over them personally, to keep them in subordination to him. The assassination of the Shereef El Husseyn Ibn Aoun, on the 14th of March, 1880, although nothing is positively known on the subject, is believed to have been inspired by political motives. The murdered Shereef was a man of liberal views, friendly toward the European powers, and so popular among the Arabs of Hejaz as to excite the jealousy of the Turkish Government. The Shereef who took his place, Abdul Mutaleb, was of a rival branch of the family, of Wahabite affiliations, and a fierce fanatic, and had twice before been shereef and twice deposed. He is more than ninety years old, and it has been mentioned as a curious coincidence that his name is the same which the traditions give to the vicegerent of the Mohdy who is to appear in 1882, and overthrow the Turkish power and the caliphate of Constantinople. It is believed by many Mussulmans that an Arabian caliphate, deriving an undoubted title direct from the founder of the faith, would go far toward reconciling the sects with orthodox Islam, and restoring unity among them. The Arabians would be able to give their caliphate a strong and effective support; for they are described as being an active, vigorous, and liberal-minded people; their settled estates in the oases are well kept and thrifty; and the political princes in the states of the peninsula have given their people a security of government that is unknown under Turkish jurisdiction.

Opposite opinions prevail on the question whether the Mohammedan religion is capable of being reformed and given a development in accordance with the present tendencies of civilized nations. The Rev. Edward Sell, who has embodied the results of fifteen years' study among the Mussulmans of India in his “Faith of Islam,” has shown that the Koran is not the sole standard of Moslem doctrine and practice, but that it is supplemented by three other standards of nearly equal authority. The Koran itself is held to be unique among sacred books, and pre-eminent over them all, because every word of it was composed in heaven and dictated to Mohammed, word by word, in the Arabic language, and in an audible voice, while the other divine books were received by the prophets who uttered them only in the form of ideas. Thus, it can not be altered in the slightest degree. It is, however, supplemented and explained by the “Sunnat,” which consists of the commands given by the Prophet outside of the Koran, and the examples set by him, including his “recorded sayings, doings, and silences” on certain subjects, which, though technically not as sacred as the Koran, are quite as binding, and are in many cases the authoritative interpretation of doubtful pas-

sages in the Koran. A third standard is the "Ijma," or consensus of the leading Mohammedan theologians on all disputed points of faith and practice, which is based on the systems of jurisprudence established by the four great orthodox Imanms, Abn Hanifa, Ibn Málík, As-Shafii, and Ibn Hanbal. These decisions are absolutely binding on all true believers, and it has been an article of faith with men of the Turkish schools since the eleventh century of the Christian era, that all further discussion or interpretation on these points is closed. The fourth standard, "Qias," is provided in the system of analogical reasoning practiced by the doctors of the Mohammedan law. The Turkish school hold that this method of interpretation also is closed by the rule that nothing can be drawn out by it that is contradictory to or does not coincide with what is determined by the other three standards. Another school, represented by the Turkish liberals and the Arabian reformers, has arisen, who believe that this method can be used so as to afford a system under which the principles of Islam may be adapted to any exigency that may arise. They maintain that Mohammedanism in its institution, and for many centuries after its birth, was eminently a rationalistic creed, and that its first spiritual triumphs were obtained through reason as well as through faith. The rules then established, embodied in custom and law, served as a sufficient guide while Islam was confined to Arabia, but had to be elaborated by further reasoning, as was done by the four great Imaams, as soon as it went out from Arabia, and had to meet new conditions. By the same principle, a new elaboration of reasoning is now called for, since the faith has to face other new and unprecedented conditions, and will be in place whenever a new leader may appear with sufficient authority to direct it and give it approval. These views, and the expectation of the new leader, or Mohdy, prevail most wherever Arab thought is the strongest, and it is there, says Mr. Blunt, "that we now find the surest symptoms of returning mental life. Modern Arabia, wherever she has come in contact with what we call the civilization of the world, has shown herself ready and able to look it in the face; and she is now setting herself seriously to solve the problem of her own position, and that of her creed toward it. . . . Where her intelligence has remained unclouded by the sense of political wrong, she has proved herself capable not only of understanding the better thought of Europe, but of assimilating with it as akin to her own." Thus at Cairo, the Arabian ulemas are rapidly assimilating to their own the higher principles of European thought, and adopting some of the better features of European morality. In Oman and Peninsular Arabia generally there is a real feeling of cordiality between the Mohammedan and his Christian guest. The abolition of slavery in Zanzibar was a concession to European opinion as much as to Euro-

pean force; "and a moral sympathy is acknowledged between a Moslem and a Christian state which has its basis in a common sense of right and justice." The same humane feeling is known to exist in Nejd; it is believed to exist in Yemen; in Hejaz, the most fanatical of Mohammedan states, Mr. Blunt found "all that was truly Arabian in the population as truly liberal"; and the late Shereef of Mecca was ready, when he was assassinated, to open his country to European intercourse, and abolish the slave-trade. The best thinkers of Islam, who seek to promote these views, are simply waiting a legal authority to change, and are seeking means to call such an authority out and put it in a position to act.

The political prospects of Islam are less promising than are the forecasts of its religious zeal and spiritual supremacy. Its principal independent states are hard pressed by hostile Christian nations. The Ottoman power is threatened in Europe and Armenia, and Turkish statesmen themselves can not exclude the belief that it is only a question of a short time when the Sultan will have to retire from those outlying provinces, and fall back upon the Turkish populations of Asia Minor and the Arabian tribes. Persia, weak, disorganized, and decaying, is constantly threatened by Russia, while the Turcomans of the desert and the tribes beyond the Oxus and the Jaxartes are submitting to the same great power. Afghanistan, the last of the great independent khanates, is overshadowed by Russia and England. The Mediterranean states of Africa are either already under European influence or objects of the jealous greed of rival powers. In India, the largest population of Mohammedans in any single country is under the control of the English Government; and another large population of Malay Mohammedans is restrained by Dutch rule. Two desperate attempts of Mohammedans within the Chinese Empire to recover independence have been suppressed, in Yunnan and Kashgar, with bloody massacres. Mohammedanism holds its own, however, in the interior of Asiatic Turkey and Arabia, and is making a rapid spiritual growth in Southeastern Asia, where it is believed that it, rather than Christianity, is destined to supplant Buddhism, and in the interior of Africa, where it has the advantage in the rivalry with Christianity, and appears destined to be the religion of the future. Whether it will be able to maintain its spiritual ascendancy and growth without a strong center of temporal power, or whether it will again be able to establish such a power as shall command the respect of the world, and maintain its influence among the populations of the faith, are questions to which the present condition of affairs does not afford the data for an intelligent answer.

ITALY, a kingdom of Southern Europe. King, Humbert I, born March 14, 1844. He succeeded his father, Victor Emanuel II, Janu-

ary 9, 1878, and married, April 22, 1868, Margaretha, daughter of Prince Ferdinand of Savoy, Duke of Genoa. Heir-apparent, Victor Emanuel, Prince of Naples, born November 11, 1869.

The area of Italy is 296,322·91 square kilometres, or 114,415 square miles. The following table gives the area of the larger territorial divisions (*compartimenti*), with the population at the close of 1879 :

TERRITORIAL DIVISIONS.	Square kilometres.	Population in 1879.
Piedmont.....	29,286·20	3,107,026
Liguria.....	5,324·20	894,244
Lombardy.....	23,526·81	3,684,594
Venetia.....	23,468·73	2,841,735
Emilia.....	20,515·09	2,209,917
Umbria.....	9,633·46	574,873
The Marches.....	9,703·70	953,253
Tuscany.....	24,052·99	2,236,606
Rome.....	11,917·13	849,546
The Abruzzi and Molise.....	17,290·11	1,341,457
Campania.....	17,973·00	2,894,157
Apulia.....	22,115·07	1,536,465
Basilicata.....	10,675·97	536,944
Calabria.....	17,257·13	1,271,622
Sicily.....	29,241·27	2,832,851
Sardinia.....	24,342·05	671,772
Total.....	296,322·91	28,437,091

Italy acquired its first colony in 1881, by the acquisition of Assab Bay, on the Red Sea, with a population of about 1,000.

The movement of population for 1879 was as follows :

Marriages.....	213,096
Births { inclusive of still-births. }	1,097,773
Deaths {	870,307
Still-births.....	33,625
Surplus of births.....	227,471

The number of emigrants for 1880 was 119,901.

The principal countries of destination were as follows :

France.....	43,172
Austro-Hungary.....	20,493
Switzerland.....	13,074
German Empire.....	4,277
Greece, Turkey, Servia, and Roumania.....	4,598
Other European countries.....	2,019
Algeria.....	1,390
Egypt.....	758
Tunis.....	260
Brazil, Venezuela, Mexico, Central America, and United States of Colombia.....	12,053
La Plata states.....	15,271
United States and Canada.....	5,756
Other countries.....	139

The population of the principal cities, on January 1, 1879, was as follows, according to the calculations of the Bureau of Vital Statistics :

Naples.....	453,614	Florence (Jan. 1, 1880).....	145,207
Milan.....	292,524	Venice.....	131,276
Rome.....	289,321	Messina.....	120,709
Palermo.....	236,579	Bologna.....	111,933
Turin.....	231,636	Leghorn.....	97,410
Genoa.....	178,006	Catania.....	90,996

The Italian ministry consisted, at the close of 1881, of the following members: President of the Council and Minister of the Interior, A. Depretis; Minister of Foreign Affairs, P. S. Mancini; Minister of Public Instruction, G. Baccelli; Minister of Finance and of the Treas-

ury, A. Magliani; Minister of War, General E. Ferrero; Minister of the Navy, Vice-Admiral F. Acton; Minister of Grace, Justice, and Worship, J. Zanardelli; Minister of Public Works, A. Baccarini; Minister of Agriculture and Commerce, D. Berti.

The actual receipts and disbursements of the kingdom, from 1876 to 1879, were as follows (in lire, one lira=19·3 cents) :

YEARS.	Receipts.	Disbursements.	Deficit (D) or surplus (S).
1876.....	1,429,423,753	1,436,837,413	D. 7,413,655
1877.....	1,491,773,495	1,480,750,305	S. 11,023,190
1878.....	1,443,085,277	1,430,822,500	S. 12,212,777
1879.....	1,470,992,506	1,428,478,752	S. 42,513,754

In the budget for 1881 the revenue was estimated as follows :

REVENUE.	Lire.
Ordinary.....	1,293,180,897
Extraordinary.....	141,391,460
Total.....	1,434,522,357

Some of the principal sources of the ordinary revenue were as follows :

REVENUE.	Lire.
Direct taxes.....	967,183,646
Grist-tax.....	45,500,000
Customs.....	138,000,000
Salt and tobacco monopoly.....	191,500,000
Posts, telegraphs, and public institutions.....	99,898,577

The expenditure was estimated as follows :

DEPARTMENTS.	Ordinary expenditures.	Extraordinary expenditures.
Ministry of the Treasury.....	716,568,417	19,690,820
" of Finance.....	130,908,794	616,695
" of Justice and Worship.....	28,130,122	114,700
" of Foreign Affairs.....	6,227,461	116,300
" of Public Instruction.....	27,540,726	1,041,197
" of Interior.....	56,520,069	2,224,396
" of Public Works.....	61,226,082	105,239,880
" of War.....	192,809,760	21,926,667
" of the Navy.....	43,400,661	2,734,000
" of Agriculture.....	8,512,613	1,162,673
Total.....	1,271,844,655	154,867,333
Total expenditure.....	1,426,711,983	
Total revenue.....	1,434,522,357	
Expected surplus.....	7,810,369	

The interest and amortization of the public debt in 1880 were as follows (in lire) :

DEBT.	Interest.	Amortization.
1. Consolidated debt.....	396,479,400	.....
2. Permanent rente of the Holy Sec.....	3,225,000	.....
3. Funded debt inscribed in the Libro Grande.....	35,885,635	2,048,550
4. Miscellaneous debt.....	44,091,360	1,897,952
5. Floating debt.....	14,015,876	.....
Total.....	493,697,271	3,946,502

The strength of the Italian army, on September 30, 1880, was as follows :

Infantry of the line.....	254,181
Military districts.....	275,336
Companies of the Alps.....	12,176
Bersaglieri.....	42,827
Cavalry.....	33,951

Brought forward.....	618,471
Artillery.....	53,807
Engineers.....	18,984
Gendarmes.....	17,591
Military schools.....	8,210
Sanitary companies.....	4,524
Veterans.....	278
Stud depots.....	351
Disciplinary companies.....	1,338
Penal institutions.....	2,102
Officers in service.....	11,930
Other officers.....	2,421
1. Standing army.....	736,502
2. Provincial militia.....	281,367
3. Officers of reserve.....	3,183
4. Territorial militia.....	697,426
Total.....	1,718,933

The navy was composed as follows on January 1, 1880:

VESSELS.	No.	Guns.	Tons.	Horse-power.
MEN-OF-WAR :				
Ironclads.....	17	242	101,661	12,830
Screw-steamers.....	15	143	23,599	4,470
Side-wheel steamers..	6	41	7,960	2,050
Total men-of-war..	38	426	133,211	19,350
TRANSPORTS :				
Screw-steamers.....	20	40	17,969	2,894
Side-wheel steamers..	9	12	2,244	725
Total transports....	29	52	20,213	3,619
Total.....	67	478	153,424	22,969

The commercial value of the imports in 1880 amounted to 1,224,800,000 lire, and of the exports to 1,130,600,000 lire. The value of the

principal articles of import and export were as follows (in lire):

CLASSES OF GOODS.	Imports.	Exports.
Grain.....	163,400,000	76,200,000
Malt and other liquors.....	17,200,000	51,000,000
Colonial produce.....	65,000,000	4,700,000
Tobacco and cigars.....	17,800,000	.....
Seeds and fruits.....	24,400,000	6,200,000
Animals and animal provisions..	79,800,000	182,900,000
1. Articles of food.....	366,600,000	296,000,000
Fuel.....	60,700,000	4,500,000
Minerals and ore.....	11,300,000	80,100,000
Raw metals.....	57,900,000	1,400,000
Hair, hides, and leather.....	44,200,000	25,100,000
Spinning material.....	192,500,000	316,000,000
Wood and timber.....	82,000,000	15,000,000
2. Raw materials.....	398,600,000	422,100,000
Pottery and glassware.....	11,800,000	10,000,000
Metal manufactures.....	7,700,000	300,000
Machines and vessels.....	33,600,000	1,900,000
Leather, etc.....	1,700,000	4,900,000
Yarn.....	42,400,000	22,200,000
Cordage and twine, woven goods and clothing.....	142,000,000	24,900,000
Paper.....	3,000,000	6,000,000
Wood-carvings.....	7,600,000	37,400,000
Objects of art.....	32,900,000	71,200,000
Manuscripts, articles for printing	3,300,000	1,500,000
3. Manufactured goods.....	286,000,000	180,300,000
4. Miscellaneous goods.....	134,100,000	203,300,000
5. Precious metals.....	39,500,000	28,900,000
Total.....	1,224,800,000	1,130,600,000

The movement of shipping in 1879 is exhibited by the following table:

VOYAGES.	TOTAL.		LADEN.		STEAMERS.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
ENTERED.						
1. Long voyage :						
Italian.....	10,224	1,612,745	8,161	1,408,702	1,095	774,555
Foreign.....	6,009	2,764,574	5,172	2,544,465	3,025	2,243,325
Total long voyage.....	16,233	4,377,619	13,333	3,953,167	4,120	3,017,880
2. Short voyage :						
Italian.....	56,464	6,208,211	44,206	5,636,496	10,692	4,623,714
Foreign.....	8,523	2,306,564	2,863	2,061,572	2,574	2,173,070
Total short voyage.....	59,987	8,514,765	47,074	7,698,368	13,566	6,801,784
CLEARED.						
1. Long voyage.....	16,743	4,764,912	12,130	3,518,333	4,513	3,273,137
2. Short voyage.....	59,450	8,171,754	45,865	7,378,576	13,165	6,529,168
Total.....	76,193	12,936,666	57,995	10,891,909	17,678	9,807,305

The aggregate length of railroads in operation was on December 31, 1879, 8,289 kilometres. The number of postal stations at the close of 1879 was 3,272; of letters and postal-cards forwarded, 163,477,173; of printed matter, 143,729,598; of money orders, 3,903,960. The aggregate length of telegraph lines at the end of 1879 was 25,533 kilometres; of wires, 84,801 kilometres, exclusive of 175 kilometres of submarine cables. The number of offices was 1,494, exclusive of those belonging to railroads and other companies (737). The total number of dispatches in 1879 was 5,502,581.

Every Italian statesman must take account of the possibility of a foreign war. The geograph-

ical situation and physical conditions of Italy have rendered her soil in all ages a temptation and a prey to conquerors. The *imperium in imperio* of the Roman Catholic Church awaits the undoing of the newly founded state. It exercises a moral sway over the hearts and minds of millions in every country, which may, in the course of events, give it an influence over the springs of political and international action, and is a source of constant apprehension. This is the more real, owing to the recent reconstruction of Italian existence and the circumstances under which it was attained. Fearful lest a fatal blow should be struck at the unified kingdom through the Church or in some fresh dis-

turbance of the European equilibrium, the Italian Government has burdened itself with the most grievously oppressive military establishment in Europe. This has hindered the political development of the nation and the natural tendencies to improvement. The dominant party is composed of men who were extremely radical in their opinions, and passed, many of them, for republicans when in opposition. Yet these radicals in office are more timidly conservative than the party of the Right whom they succeeded. They have with difficulty been able to unite on reforms which the most moderate among them considered imperative before they came into power. Much of their attention is given to watching the European horizon and coquetting with other powers for an advantageous alliance in the next European convulsion. The exotic military system under which the people groan is fostered and constantly enlarged with the approval of all parties. The party in power has checked all natural leanings to national friendships or antipathies, and has kept the country in absolute isolation, waiting to make the best bargain with the monster armaments which are willingly supported in the midst of profound peace by this overtaxed and peace-loving people. This attitude was in its relations to internal politics a natural and logical one for the group of men who guide the helm of state to assume, for they occupy a neutral ground in politics, and balance themselves between the republican tendencies which are derived from France and the monarchic ideas which predominate in Central Europe. The connection of the house of Savoy with the achievement of Italian union gives the reigning dynasty the strongest title to loyalty enjoyed by any monarchs in Europe, and the circumstances under which their kingdom was founded prescribe for this line of sovereigns a policy of liberality toward democratic tendencies from which they have not yet shown any tendency to depart. The Left, which has been in power since 1876, numbers among its leaders men who have always passed for republicans. The party is composed of the democratic followers of Ratazzi. Yet they are as earnest in their protestations of loyalty to the monarchy as their opponents, and do not differ from them in principles. Probably a large majority of the Italian people are republicans in theory, but the Red Republicans and Socialists are fewer in number than in any other country, and even they recognize that the strength of Italy is in the constitutional monarchy under the present conditions. The latter class, in other countries the uncompromising denounciators of militarism and international warfare, in Italy clamor for the conquest of the "unredeemed" provinces, or insult the Church, impatient to provoke the conflict in which Italy is to prove the prowess of her arms and acquire the prestige of victory. Military prestige is felt by all parties to be the chief need of Italy, and those who hold the

most advanced and radical views are the most impatient to attain it, deeming that their ideas will not have scope for development until Italians have won in battle the liberty to manage their affairs as they will without danger of foreign interference. The Conservative party would have proceeded with the national armament and defenses more rapidly than the Left has done, and would have pursued a more aggressive policy and taken an active part in the European combinations. The cautious and temporizing ministerial party have been driven by the gust of popular indignation which followed the French intervention in Tunis, if they would not otherwise have drifted, toward the alliance approved by the Opposition. The effect of the injury dealt to Italian prestige in Tunis by France has been to obliterate the sentiments of revenge toward Austria and remove the danger to the country of becoming inflamed and plunged into a war on account of *Italia irredenta*.* The aggressive aspirations which are now turned toward France are far less strong and dangerous, and are really a guarantee of peace, as they constitute a check to the revengeful designs which France may entertain toward Germany. The party in power may be expected to continue to keep out of entangling alliances and to pursue a pacific policy, and at the same time to strengthen the fortifications and increase the army and navy, for the sake of improving the security and prestige of the nation. The internal policy of the country has been conducted with the same shrewd and politic circumspection which has governed the external relations. The cautious leaders who have been kept at the head of the Radical party since it came into power in 1876 took a stand between the parties. The reforms which the Left undertook to accomplish have been brought forward tardily and in a greatly modified shape. The large majority of the party has been a source of weakness. The internal divisions and personal rivalries have led to ceaseless Cabinet crises. But these divisions have been between the abler and more representative members of the party, and the moderate men who, for reasons of policy, and owing to the King's preferences and other outside influences, have been intrusted with the direction of affairs. For these reasons the Progressist party has succeeded in accomplishing very tardily and only partially the legislation which was promised when their rule began.

The revision of the Italian Constitution, although it is acknowledged on all hands to be a very defective instrument, is not proposed by either of the great parties, because it contains no provision for such revision or amendment. The electoral law is a legislative statute, and the principal project in the programme of the Progressists, but which has been long delayed, was the extension of the franchise. Universal suffrage has long been advocated by

* See "Annual Cyclopædia" for 1879.

leaders of the dominant party, but the bill which was finally brought in during the session of 1881, and carried after a long discussion, still retains important limitations. Another favorite project of the party has been the revision of the penal code, with the object of mitigating the harsher penalties and ultimately abolishing the death-sentence.

The fiscal system of Italy, national and local, is full of anomalies. The antiquated and vicious methods of taxation retard material progress, and bear with crushing force upon the half-starved tillers of the most fertile valleys in Europe. But the mischievous taxes are not removed, though new ones are added, because the maintenance of overgrown armaments, which are not yet considered sufficient for the defense of Italy, and the proper assertion of her position as one of the six great powers, will not allow any source of revenue to be disturbed. The *octroi* duties, or taxes on produce brought into the towns, are still in full force. The house-tax in some of the towns, as in half-deserted Florence, amounts to nearly fifty per cent of the rental. The legacy duty is collected not only from the immediate heirs and legatees upon their succession, but is exacted for rever-sionary interests which fall due in the indefinite future. The tobacco-tax presses heavily on an article of universal consumption, and falls with special severity upon the poorer classes. The salt monopoly is a still more indefensible source of revenue. The public lottery is an immoral mode of taxation, and its influence unquestionably pernicious. The customs duties are excessively high, and revenue considerations prevent their being adjusted so as to judiciously protect home industries without unnecessarily hampering foreign trade. The port charges and navigation laws are a further discouragement to commerce, and have had the effect of diminishing navigation and reducing the Italian commercial marine.

Two popular financial measures were proposed by the Government party when in opposition. These were the abolition of the obnoxious grist-tax and the return to specie payments. Favored by abundant harvests and improving prosperity, both of the promised reforms have at length, though tardily, been initiated. The act for the removal of the grist-tax was passed in the session of 1880. The opponents of the measure prophesied that the public finances would be seriously crippled, but the revenue of 1881 was larger than the most sanguine supporters of the bill anticipated.

As soon as the Cabinet crisis was composed, the Legislature entered on the discussion of the electoral reform act. Under the old law suffrage was limited to those who paid at least forty francs direct taxes annually and to members of the learned professions. Universal suffrage has found many advocates in Italy; yet when an amendment in that sense was proposed, only 39 votes were given for it to 314 against, and Crispi's proposal to allow all to

vote who could write the names of their candidates, was lost by a heavy majority. The property limitation of the new law is the payment of nineteen francs eighty centimes of annual taxes. The bill passed the Chamber June 29th, and was still pending before the Legislature at the end of the year. It passed the Senate, much altered by amendments, December 20th. The substitution of the *scrutin de liste*,* or collective tickets, for the method of voting by separate districts for the representatives in the Legislature, was one of the elective reforms proposed by the Government. It was presented in a separate bill, and, though pressed by the ministry, the Chamber postponed the measure, and it could not be brought to a vote before the adjournment in July. Notwithstanding the dissensions among the majority, the two Cabinet crises, and the difficulties of the situation at home and abroad, the session was an unusually fruitful one. Besides the election reform bill, and the bill for the retirement of the forced currency, an important reform in the organization of the army, and a municipal aid law for Rome and Naples, were valuable measures among an unusual number of minor enactments.

The French advance into Tunis occurred at a time when the Left in Parliament was more disorganized and discordant than usual. The French preparations for landing troops on the Tunisian coast were the occasion for an onset against the weak and struggling ministry. The news stirred the political life of Italy deeply. The firm belief was that France intended to retain a supremacy of some description in Tunis, and the general feeling was that Italy must prevent it if by any means she could. It was a tradition of Italian politics that a military power should never be suffered to install itself upon that coast, from which Carthage menaced ancient Rome. Italy had also large and growing mercantile interests in Tunis, and regarded with complacency this point of ingress into the African trade as having been gained, and as likely to be retained, by the enterprise of her men of business. Hence arose the demand for a strong ministry which could command a firm majority in the Chamber of Deputies, and could with confidence take the decided steps which the juncture might render necessary. Massari, De Rudini, and Damiani addressed the formal interrogations to the ministry. Cairoli, the Prime Minister and Minister for Foreign Affairs, replied that France had made categorical declarations to both Italy and England that the expedition was designed simply to punish the Kroumirs, and that the *status quo* would not be altered. The assurances that furnished the grounds on which the Government defended its inactivity were not relied upon as implicitly by the deputies of the Right, and the dissident fractions of the ruling party. The ministry were left in the minority on a vote of censure, April 7th, and handed in their portfolios. The

* See SCRUTIN DE LISTE.

King, in view of the emergency and of the interminable discords and divisions in the Progressive party, was inclined to try a ministry from the Right. But the recalcitrant sections of the Left were composed of the more advanced thinkers of the party, and their co-operation with the Right was out of the question. The Right is the Moderate Liberal or Conservative party, which controlled the Government and worked out the consolidation of the kingdom on the lines laid down by Cavour during the first sixteen years of the national history. The controlling spirits of the disaffected faction were Nicotera and Crispi, who were not satisfied with the timid and faltering leadership of Cairoli and Depretis, and considered that they had the ability and parliamentary strength to control the policy of the Government. The King consulted with Sella, the leader of the Right, who could see no way for his party to assume or co-operate in the Government with the present House of Deputies. The King was unwilling to dissolve the Chamber if the difficulty could by any means be composed, because the long-projected electoral reform bill was to be dealt with in that session. Depretis was requested to seek to re-establish accord between the rival factions. When he obtained the pledge of the section-leader Nicotera, a majority was assured, and the King, on Sella's suggestion, declined the resignation of the Cairoli Cabinet, April 18th. The new developments of the French plans in Tunis gave rise to fresh interrogations, but the Government commanded a majority until the French treaty with the Bey was concluded. The ministers repeated the assurances made by the French Government, that no ulterior ends were pursued, stating at the same time that steps were being taken to protect Italian interests. On the 11th of May the French minister, Barthélemy Saint-Hilaire, issued a circular to the powers, accompanied with a yellow-book of corroborative documents, in which Italian commercial intrigues were intimated to have been one of the causes of the invasion. When the Government was informed of the conclusion of the treaty, they sounded the European governments on the subject of a conference, according to the precedent of the Berlin Congress, but were met with a peremptory refusal on the part of Germany. The alienation of France and Italy through the Tunisian question would seem to have entered into the calculations of Bismarck from the time when the subject of a French intervention in Tunis was informally broached in conversations between the delegates at the Berlin Conference. When the terms of the French treaty were made known, the Cairoli ministry resigned, May 14th, without waiting for the hostile vote of the Chamber. The King again turned to Sella, who seemed to prefer constituting a Cabinet from the pure Right, and appealing to the country to return him, if possible, the two hundred members which he lacked of a major-

ity; but he agreed to undertake the fruitless task of negotiating with the Left and Center for a coalition Cabinet. Farini, President of the Chamber, and Mancini, declined in succession the task of forming a Cabinet, and it was finally intrusted to Depretis, who succeeded, May 28th, in getting a ministry together of the same character as the one which had gone out. General Mezzacapo, who was offered the Ministry of War, declined to accept unless the new Cabinet would undertake the augmentation of the military budget by from 10,000 to 30,000 francs a year, to the amount of 400,000,000 francs in all, although neither he nor any other serious statesman entertained a thought of engaging in a war with France on account of the Tunisian difficulty.

The Italian people were deeply offended at the course taken by France to set aside Italian prestige in Tunis. The feeling permeated all classes, and was returned by the irascible people of France. In the riot at Marseilles, June 17th, the swelling anger broke out. This city contains a colony of Italian dock-laborers, mechanics, and merchants, numbering, according to the census of 1876, 61,428, besides a large transient population of Italian sailors and emigrants departing for and returning from America. Of the latter about 5,000 enter the city every month, stopping usually for some time. Crowds of people were gathered in the streets to see a body of French troops returning from Tunis march through. As they passed the house of the Italian Club, hisses were heard, probably emitted by Italian spectators on the sidewalk. The club-house was attacked by the mob, and street affrays between the two nationalities occurred in all parts of the city. The rioting was renewed on the following day, which was a Sunday, and the police did not quell the disorders until Monday night. In other towns of France murderous fights occurred between Italians and Frenchmen. In Naples, Genoa, Turin, and all the Italian cities, popular demonstrations took place in which the whole population participated. Prompt and efficient measures were taken by the Government to defend the French consulates and prevent any scenes of violence.

The claims of the Papacy to the lost sovereignty are still openly asserted by the Pope and unremittingly pressed. On the other hand, the radical agitators, appealing to the patriotism of the people, embrace every opportunity to affront the Church and wound the religious sentiments of their fellow-citizens, which with certain classes of Romans are very strong and susceptible. The irritation has been passing away during the pontificate of Leo XIII, who, though still acting the part of a captive and martyr, has in many ways shown a conciliatory disposition and smoothed the difficulties between the church and the state. He is, therefore, held in a very different estimation by the patriotic Italians than was his predecessor. The section of the clergy who stand in the way

of a reconciliation have, however, not ceased their quiet agitation for the restoration of the temporal power of the Pope. A coarse exhibition of anti-clerical feeling, which was manifested on the occasion of the removal of the remains of Pius IX to the Basilica of San Lorenzo on the night of July 12th has again widened the breach between the Quirinal and the Vatican, and furnished the Pope with a substantial ground of justification for his persistent isolation. It was expected that the removal would be conducted with simplicity, and that none but priests would attend. Instead of this, a splendid funeral-car bore the remains, and a procession of some two thousand people followed it, bearing torches and chanting prayers. The people gathered from all parts of the city to witness the imposing spectacle. After the train had advanced some distance a band of from fifty to one hundred men appeared, who sang popular ditties in derision, hooted and jeered, jostled the torch-bearers, and attempted to put out the torches; and when the procession reached the place in front of the church they rushed in and created a scene of confusion and of terror to the numerous ladies who were among the torch-bearers.

After this the Radical and Republican clubs started an agitation in favor of the abrogation of the law of the Papal guarantees, while the Pontifical Secretary of State, Cardinal Jacobini, in a circular to the nuncios, and the Pope in an allocution, protested that the guarantees were of no effect—that the Government was responsible for the outrage of the 13th of July, and that the Pope's person would not be safe if he abandoned his seclusion. The possibility that the Pope would leave Rome, where he enjoyed neither liberty nor security, was hinted at. After a meeting held by the Radicals on August 7th—which was broken up by the police on account of a resolution offered which accused the Pope of lying, in asking permission for the removal of the corpse of Pius IX without pomp, and which urged the occupation of the Vatican palaces—the Pope declared that he would not leave Rome unless driven away by brute force. Agitation for the repeal of the law of guarantees was continued, and meetings were held in all the principal cities. The police interfered at nearly every meeting on account of language derogatory to the dignity of the Pope and of his guaranteed liberties. On the feast of the Assumption of the Blessed Virgin at Rome there were slight disturbances, but the streets were lined with soldiers, and the scoffing manifestations promptly suppressed. A portion of the clergy desired to accompany the pilgrimage to the Roman shrines in August, and other religious observances, with popular demonstrations; but the Government promptly interdicted every proposal for a demonstration from either side, and, although the liberty of meeting is guaranteed by the Italian Constitution, the interference of the police at every assembly to prevent votes being taken on resolu-

tions in favor of the abrogation of the law of guarantees was sufficient to prevent the agitation from spreading among other classes.

In October King Humbert and Queen Margaretha paid a visit to the Austrian imperial family at Vienna, where they were entertained with distinction. The King was accompanied by the Prime Minister, Depretis, and the Minister for Foreign Affairs, Mancini, and the journey had a political significance, clearing away for the present the clouds left by the popular clamor for the acquisition of Trieste and the Trentino, and indicating the inclination of Italy for an alliance with Austria and Germany in the event of European complications.

A great development has taken place within a very short period in the Italian press, both with respect to the number of newspapers printed and their literary excellence. At the beginning of the year, 149 daily papers were published in Italy, and 1,305 journals appeared weekly, semi-weekly, or tri-weekly. Of the dailies, 18 are published in Rome, 16 in Naples, 13 in Palermo, 12 in Milan, 9 in Florence, 6 in Turin, and 5 in Venice.

The town of Casaniciola, in the Island of Ischia, in the Bay of Naples, was almost totally destroyed by an earthquake which occurred on the 4th of March. Of the 4,000 inhabitants 3,000 were left homeless, and more than 150 were buried under the ruins of their houses. The first and severest of the two shocks lasted less than a quarter of a minute. Other, slighter, shocks were felt on the succeeding days. The disturbance was local, and not connected with the eruption of Vesuvius, which was taking place. It was attributed by Professor Palmieri, a distinguished Neapolitan seismologist, to the sinking of the soil consequent upon the undermining action of the mineral springs for which the island is celebrated. Another earthquake was felt over a considerable extent of territory in the Abruzzi on September 10th. Lives were lost and houses shattered at Castelfrentano, Chieti, and other villages. Many thousands were rendered shelterless. A second shock occurred at Castelfrentano on the 23d, followed by a land-slide, which carried away the site of the village. The Neapolitan coast was swept during the year by several hurricanes of uncommon severity.

There was a general census of the kingdom taken in December. The population of the city and suburbs of Rome was 300,292, the males numbering 167,327, and the females 132,965. The increase in ten years was 55,808 souls. Rome contained under Pontifical rule, as at present, a remarkable preponderance of males. The proportion was in 1871 118, and in 1881 115 males to 100 females.

A notorious Sicilian bandit, named Randazzo, was captured in New Orleans in July and taken to New York, whence he was extradited on the requisition of the Italian Government and on the testimony of witnesses sent over to prove his identity. He belonged formerly to

the band of the dreaded robber-chieftain Leone, and was captured with two of his companions after a desperate struggle in 1878, and lodged in jail at Palermo; but he leaped from the wagon when being conveyed to the court, and in spite of the vigilance of the police made his escape abroad. Since then to the date of his recapture he followed the trade of a fruit-dealer in New Orleans, where he sailed a small vessel on trading trips in the neighboring waters. He had many friends among the immigrants from Southern Italy settled in that city. The detective engaged for the Italian Government resorted to a *ruse* and conveyed him on shipboard and detained him there without legal warrant, but when the case came up before the court in New York, whence the order for his arrest had been issued, it was held

that the court could not discharge him on the ground of his having been brought within its jurisdiction by unlawful means. The circumstance of the evidence offered by the Italian Government being somewhat incomplete and conflicting, and that of his having been taken away from New Orleans where he claimed to have been living at the time when the crimes laid to his charge were committed, left a doubt in the public mind of his identity. When brought to trial, however, in Palermo he was proved by unquestionable evidence to be the brigand Randazzo. Among the numerous crimes and cruelties committed by him the most notorious was his latest, that of cutting off the ears of the English tourist Rose and sending them to his friends to terrify them into paying an enormous ransom.

J

JAPAN, an empire in Eastern Asia. The sovereign bears the title of "Tenno" or "Mikado." The reigning Mikado, Mutz-Hito, was born at Tokio, September 22, 1852, and succeeded his father, Komei-Tenno, in 1867. He was married on December 28, 1868, to Princess Haruko, born April 17, 1850, daughter of Prince Idchidgo. There is no regular law of succession, and, in case of the death or abdication of the Mikado, the crown does not generally devolve upon his son, but upon either the eldest or most distinguished member of the Shi-Shinnô, the four imperial families of Japan. These families are the Katzura, Arisugawa, Fushimi, and Kaniu. The power of the Mikado is unlimited in temporal as well as spiritual affairs. He acts through an executive ministry divided into nine departments, viz., of the Imperial House, Foreign Affairs, War, Navy, Finances, Interior, Public Instruction, and Ecclesiastical Affairs. At the side of the ministry stands the "Sain" or Senate, composed of thirty members, and the Shoin, or the Council of State, of an unlimited number of members, both nominated by the Mikado.

The area in 1881 was estimated at 382,363 square kilometres; the population, January 1, 1876, was 34,388,404, of whom 17,419,785 were males, and 16,918,619 females. The Bonin Islands, belonging to Japan, have an area of 84 square kilometres, and a population of 75. Tokio, the capital, inclusive of suburbs, had in 1881 a population of 1,140,566; Osaka, in 1881, 291,086. The number of foreign residents in 1879 was as follows:

CITIES.	Europeans and Americans.	Chinese.	Total.
Kanagawa.....	1,394	2,245	3,639
Tokio.....	367	54	421
Hioo and Osaka.....	392	657	1,049
Nagasaki.....	214	653	867
Hakodadi.....	31	40	71
Total.....	2,398	3,649	6,047

The receipts and expenditures were estimated as follows, in the budget of 1880-'81 (in yens; 1 yen = 99·3 cents):

RECEIPTS.	
Customs.....	2,569,462
Ground-tax.....	41,901,441
Excise.....	5,965,029
Other taxes.....	4,122,372
Public works.....	1,407,647
Public domains and miscellaneous receipts.....	650,956
Total ordinary receipts.....	56,616,907
Extraordinary receipts.....	3,316,600
Total.....	59,933,507
EXPENDITURES.	
Public debt.....	21,448,906
Civil list.....	960,100
Pensions.....	596,744
Council of State.....	500,000
Senate.....	184,000
Ministry of Foreign Affairs.....	201,000
“ Interior.....	1,647,150
“ Finance.....	1,487,700
“ War.....	8,151,000
“ Navy.....	3,015,000
“ Public Education.....	1,181,100
“ Public Works.....	545,860
“ Justice.....	1,785,000
“ the Imperial House.....	348,000
Colonization.....	1,884,199
Land-tax reform.....	90,400
Provincial administration.....	4,539,280
Posts.....	1,260,000
Promotion of industry.....	108,172
Police.....	2,575,596
Priesthood.....	185,000
Public buildings, canals, etc.....	1,884,415
Embassies and consuls.....	821,000
Famine.....	1,200,000
Ordinary expenditures.....	56,494,623
Extraordinary expenditures.....	3,438,884
Total.....	59,933,507

The public debt, on July 1, 1880, amounted to 358,047,291 yens; the reserve funds and other resources amounted to 51,325,515 yens, leaving 306,721,776 yens unprovided for.

The sudden transformation which the whole social fabric in Japan has been undergoing, since the revolution of 1868, excites the wonder of travelers and is a puzzle to every student of history. Apparently by command of

the authorities and without any spontaneous evolution, the political institutions, the social habits, the education, the ideas, and even the religion of the people, are completely transmuted. The sovereignty which accomplished such marvels is itself a usurped power, which dates back only a score of years, and which precipitated the shogunate with its prestige of seven hundred years of empire and was established in its place with scarcely a struggle. The Daimios, the mighty feudatory lords of the realm, were soon crushed by the quickly organized rule of the Mikado. The military caste of the Samurais alone survived the deluge which in a moment swept away the institutions of old Japan. These cavaliers still swagged about with their two swords, displaying a blustering opposition to the new order of things. To this day the interior of Japan is rendered unsafe to European and American travelers by these survivors of mediæval Japan, whose weapons fly out whenever a foreigner comes in sight, at the thought of the destruction to old traditions which European influence has wrought, especially the degradation and rapid decay of the order of Samurais.

The statements were made by travelers in the earlier stages of the singular official revolution in Japan, that the change was entirely superficial and unsubstantial, that though the normal civilization of the people was disastrously unsettled, yet they were receiving nothing but a mere veneering of Western culture, a distorted and spurious Europeanism, in compensation for this demoralizing effect. Later observers perceive that the entire social culture of old Japan has been fatally smitten, but that the Japanese prove capable of readily assimilating much of the civilization of the West. It was but the exchange of one materialistic civilization for another, for the religious founts of Japanese development were already nearly dry, while in the social discipline and solidarity, that enable them to adapt themselves to such startling innovations, they already possess a higher development than the Western nations which they copy.

In these drastic changes much of the poetry of life, of the inspiration of art, of the moral groundwork and attractive characteristics of Japanese manners must necessarily be sacrificed. The most difficult and questionable part of the scheme of reformation is the not unsuccessful attempt to root out the prevailing Buddhistic religion, which was introduced from China ages before and always favored by the Shoguns, in order to restore the ancient and obsolete Shinto cult, an abstract worship of Nature. The abolition of the existing religion is not impossible, since the people are already largely given over to religious indifferentism and skepticism, but the revival of the national religion, the forms of which were almost lost and the principles no longer understood, can have no further success than the political one which was intended, that of extinguishing the

lingering loyalty to the Shogun, and impressing the people with the idea of the antiquity and historical rightfulness of the Mikado's rule.

The development of the University of Tokio illustrates the ardor shown by the authorities in introducing and the capacity of the Japanese people for assimilating the best results of European progress. The Japanese received their first inkling of Western science in the beginning of the last century, through their contact with the Dutch. In 1744 an astronomical observatory was established. In 1811 a corps of translators was organized for the purpose of rendering into Japanese Dutch treatises on science and useful arts. Out of this grew a school of languages in combination with the translation office. The sciences of mathematics, botany, and chemistry were afterward taught in connection with Dutch, English, French, German, and Russian. In 1862 students began to be sent to Europe. After the revolution of 1868 the instruction in European science and languages, which had been restricted and confined to a certain privileged class, was fostered and extended much more liberally. The different special schools which were established were gradually consolidated, and the high school for the teaching of Chinese and Japanese learning and literature united with those devoted to Western science. Many changes in the system of instruction, the transfer of the direction of studies to English, German, American, French, and Japanese instructors in turn, interfered with the due development of the system of higher education. In 1876 special courses of law, chemistry, and engineering were instituted, besides the general curriculums of science and arts. From the following year English was the only European language employed in instruction, and French and German discarded in the class-room, except for special studies in the law and science departments, in which instruction was still given in French. In 1878 the medical school was added to the others, and the university regularly constituted on the model of the leading European high schools. The Botanical Garden was placed in charge of the authorities of the university. A magazine was published; the discovery of shell-heaps by Edward S. Morse gave an impulse to archæological and palæontological researches; students were sent abroad, after the completion of their courses in the university, to pursue their special branches in the schools and libraries of Europe, and returned to impart their attainments to others; and so the university acquired rapidly the character and spirit of an institution of learning. In the department of law a very thorough course of English common law is taught by English instructors in addition to the principles of mercantile and international law and theoretical jurisprudence; but the civil law is neglected, with the exception of an exposition of the French code. All this is supplementary to the instruction in ancient and modern Jap-

anese law by Japanese professors. The department of science is divided into six courses: (1) chemistry; (2) mathematics; (3) physics and astronomy; (4) biology; (5) engineering, geology; (6) mining and metallurgy. The instruction is strongly colored by the new development theories and keeps abreast of the latest speculations. In mathematics and chemistry the courses of instruction are very complete. The department of literature is divided into two courses: (1) philosophy, political philosophy, and political economy; (2) Japanese and Chinese literature. In the course of philosophy the views of the English thinkers of materialistic tendencies are laid before the students as soon as they are published. It is the design of the Government to dispense with instruction in the English language as soon as possible, and have all the lectures and examinations in Japanese. The president and vice-president are men who have been long identified with the development of the higher education in Japan. Hiroyuki Kato has been president from the start. The professors and instructors number about a dozen Europeans, nearly all English, and three times as many Japanese, with two or three Chinese. The number of students pursuing, in 1881, the exceedingly various and thorough courses was 205. Each of the well-instructed graduates is a furtherer of science and culture in Japan.

The Japanese Government has just published at Yeddo a large dictionary of military, naval, and other technical terms in five languages—Japanese, French, English, German, and Dutch. It is the first Japanese dictionary printed on the European plan, and is illustrated with pictures engraved with the greatest care.

The first telegraph was erected in Japan in 1871. At the beginning of 1880 there were 3,929 miles of line, and 9,345 miles of wire. The number of telegrams sent during the previous year was 1,272,756, of which about 96 per cent were in the Japanese language; while the number of cable messages was 22,695. Although the Japanese language has no regular alphabet, the sounds of the Katakana syllabary are represented by extending the Morse characters to combinations of five dots and dashes. By thus supplementing the signs of the international code, forty-seven characters were obtained, and the alphabet has worked with satisfactory results for ten years. Japanese youths are trained as operators in a telegraph-school. The average charge for a message requiring twenty characters is only about two cents for a distance of sixty miles. In 1880 there were 112 offices open for general use, and seventy others used by the Government. In 1880 the receipts amounted to \$528,100, and the expenditures to \$495,660, this being the first year in which the receipts were greater than the working expenses. The telegraph was largely used in the field in the Satsuma rebellion of 1877, and contributed materially to the suppression of the revolt. The Sat-

suma rebels were particularly active in forced marches, but their movements were frustrated every time through the warnings communicated by the wires. For this purpose 511 miles of line were constructed in the rear of the army, light, portable posts being used, the trees utilized for supports, and vulcanite insulators employed.

The total number of postal stations on June 30, 1880, was 4,377. The number of letters sent was 34,627,343; of postal-cards, 17,345,212; of newspapers, 14,256,795; of samples and books, 829,063; letters sent free of charge, 1,885,653. The aggregate value of the money orders was 4,604,027 yens.

The Japanese Government has established a Department of Agriculture. The subjects which the local officials charged with the encouragement of agriculture in the provinces have submitted to it for consideration are—the revision of the methods of preparing statistics of agriculture; exchanges of seeds between different districts; the supply of manure; the investigation of the fisheries, and the preservation of fish, sea-weeds, and other marine productions; and the offering of rewards for services tending to the improvement of agriculture.

Flower-culture has always been pursued with careful attention in Japan. Flowers are seen in every house, rich or poor. New varieties of flowering plants are eagerly bought. Gardening and the art of arranging nosegays are taught in the schools.

When the feudal clan system was finally broken up in 1871, the present administrative division of the country was made. Japan is divided into three *fu*, thirty-five *ken*, and one *han*. Each *fu* is administered by a *chiji*, or governor; each *ken* by a *rei*, or prefect; and the *han* by a vassal prince. The *fu* are the districts of the great cities—Tokio, Kioto, and Osaka.

The Supreme Council or Cabinet of the Mikado is called the Dai-jo Kuwan, or great governing council, the name being taken from a body which was constituted in the eighth century. The Council is composed of the Prime Minister, two Vice Prime Ministers, and the Ministers of Foreign and of Home Affairs, of War, Finance, the Marine, Public Works, Justice, and Colonies and Agriculture. The entire government of the country is conducted by this body. The retention of Sanjo in the office of Dai-jo-Dai-jen, or Prime Minister, has had a considerable effect in reconciling the antagonisms between adherents of the old and of the new systems. He was one of the leading nobles at the old Kioto court, and was in the beginning an opponent of the changes which he himself afterward aided materially in bringing to pass. He is now accounted a thoroughly devoted supporter of the Mikado and the new order of things. The Vice-Minister Iwakura, the intellectual leader in the great transition, was also a court noble. He did not become an advocate of unrestricted foreign intercourse, even

after the revolution, until his mission to Europe and America in 1871.

The second governing body is the Genro-In, or Senate. The name signifies House of Seniors. It is composed of men who have served the country with recognized distinction, noblemen, officers who have given proofs of ability in the administrative departments, and men eminent in politics throughout the country. The Emperor's decree creating this body stated that it was to enlarge the law-making power. Its powers are confined to the approval of laws submitted to its consideration by the ministry.

The elective local assemblies were established in 1878. They sit in March of each year for a time not to exceed thirty days, and, subject to the control of the Home Minister, they deal with questions of local taxation. The qualifications for electors are an age of twenty years, registration, and payment of at least five dollars' land-tax. Each voter must write the name of his candidate upon the voting slip.

Gold is, nominally, the monetary standard in Japan; but the heavy expenses imposed on the Government for the suppression of rebellions and pensioning the Shogun and Daimios, had diminished the coin reserve and augmented the paper currency, so that a disparity of values exists. The currency unit in Japan is the *yen* or dollar, which is divided into *sen* or cents, and *rin* or mills. The unit of exchange at the treaty ports is the Mexican dollar. The paper money, or *yen satsu*, varies according to their comparative abundance in value. While they stood at 8 per cent discount in 1877 against gold *yen*, in previous years, although they are not redeemable in specie, they had actually stood at a premium. The large amount issued during the Satsuma rebellion has been the cause of their standing constantly below par since then. The Government have coined a trade-dollar in recent years, identical in weight and fineness with the American trade-dollar, and four grains heavier than the silver *yen*. This new coin is beginning to circulate extensively in China and other parts of the East. The coins of gold, silver, and bronze struck at the Japanese mint already compare favorably with the coinage of any other country.

The military system has necessarily been built up from the foundation since the feudal system prevailing under the Shogun was abolished. The new army was formed under a conscription law, by which every male between the ages of seventeen and forty is subject to three years of military service with the colors, and to two years in the first, and two years in the second division of the reserve. The remainder of the period of military liability he is enrolled in a reserve corps, somewhat resembling a Landwehr. This system provides nearly 70,000 men liable to be called upon for military duty. From this number the regular force is recruited by lot. The normal strength of the army is 35,560 men in peace, and 50,230

in war-time. The troops have been highly trained, chiefly under French officers; but the instruction is now conducted almost altogether by Japanese officers. The Imperial Guard, which is the flower of the army, is selected from the Samurai class. The organization of the army of the line is given as follows:

BRANCH.	Number in peace.	Number in war.
Infantry (14 brigades, 42 regiments).....	26,880	40,320
Cavalry (3 regiments).....	360	450
Artillery (18 companies).....	2,160	2,700
Engineers (10 companies).....	1,200	1,500
Military train (6 companies).....	360	450
Marine artillery (9 companies).....	720	800
Total.....	31,680	46,250

The Imperial Guard is made up of two infantry brigades of two regiments each, 3,200 men; one regiment of cavalry, 150 men; two companies of artillery, 300 men; one company of engineers, 150 men; and 80 men in the commissariat; in all, 3,880.

The Japanese police is a new development. The discipline and intelligence shown by the force, and the satisfaction of the people with the new institution, have been remarked with admiration. The police is made up of 18,000 picked men, who have been drilled and instructed in their duties with great care. They exercise judgment and consideration in their interferences with the acts of the people, and possess the confidence of all in a high degree, being regarded everywhere as the protectors of the people from disturbance and submitted to as the authorized officers of the law. They are uniformed in European costume. The dismissal of the Samurais from their functions, and privileges left the country entirely without a constabulary; but the efficiency developed by the police in a few years is of the very highest order.

Before the revolution of 1868, Japan had no ships, properly speaking. There was a considerable number of junks, some of nearly 200 tons, but used only as coasters. The state had a few that could sail as far as the Loo-choo Islands, Formosa, or China; but their primitive and defective form made them unfit and dangerous for such long distances. These junks were exclusively reserved for ambassadors or literary men, all commercial relations with foreign countries being strictly forbidden by Japanese laws. It is only since the restoration, when the Mikado's power was firmly established, that the Government thought of creating a navy and of encouraging the people to build merchantmen after European models. The effect of removing restrictions and encouraging mercantile enterprise was remarkable. In 1873 the merchant navy consisted of 110 steamers, with an aggregate tonnage of 16,088; 37 sailing-vessels, with 8,488 tonnage; and 22,692 junks. Since that date the number of ships has constantly increased, and was in 1879 as follows:

	Number.	Tonnage.
Steamers.....	166	42,763
Sailing-vessels.....	714	27,551

The number of junks decreased 3,978 in the same time. The construction of ships in 1880 was on a greater scale than in preceding years.

The number of ships that entered the Yokohama harbor during the year 1880 was as follows :

Foreign mail-packets	91
Merchant steamers.....	60
Sailing-ships	146
National mail-packets and merchant-vessels....	1,225
Total.....	1,522

The amount of duties received by the Yokohama custom-house during the year 1880 was 1,895,587 yen.

A Japanese commissioner was sent in 1881 to Constantinople and empowered to negotiate with the Minister of Foreign Affairs for direct commercial relations between Japan and Turkey. Tea and silk are the principal articles which the Japanese wish to put upon the Constantinople market, and to this end the Government proposes the establishment of a direct line of steamers.

Samples of ten different sorts of marble were sent from Japan to the Melbourne International Exhibition, held in 1881. One was a marble, similar to the Italian Sevaressa, so much in demand in Europe and America for columns, mantel-pieces, etc. It is found on the Soukenawa Mountain, and worth at Yokohama \$2.20 per cubic foot. There are quarries of a blue-and-white marble, of a fineness seldom met with. Another marble is black, resembling in all respects Belgian and Irish marbles of the same color. Another sample was a statuary marble of great purity, extracted from Mayoni Mountain, and valued at about \$8 per cubic foot. Another statuary marble is claimed to be equal to the best Italian marbles. A specimen of alabaster of fine color was also exhibited.

JEWS, THEIR NUMBERS, AND THEIR PERSECUTIONS IN GERMANY AND IN RUSSIA. An accurate census of the Jewish population of the world can not be obtained without more difficulty than its importance demands. The most reliable estimates are very uniform in putting the number of the Jews above six millions. Professor Bruniatti, in the "Archives of Statistics," puts the number at seven millions. In Europe their number is reckoned to be 5,500,000, averaging among the Latin race one Israelite to 1,100 persons, and among the Slav races forty to the 1,000. In Russia they are reckoned at 2,700,000; Austro-Hungary, 1,500,000; Germany, 650,000; Roumania, 400,000; Turkey, 100,000; Holland, 70,000; France, 50,000; England, 70,000; Italy, 40,000; Switzerland, 7,000; Spain, 6,000; Greece, 5,000; Servia, 4,500; Belgium, 3,000; Sweden, 2,000;

Portugal 1,000. In Africa they are reckoned at 500,000, of whom 200,000 are in Morocco, 34,000 in Algiers, 60,000 in Tunis, 100,000 in Tripoli, and 8,000 in Egypt.

In Asia the Israelites are estimated at about 240,000, of whom 150,000 are in Asiatic Turkey and Arabia, 30,000 in the Caucasus, 20,000 in Persia, 15,000 in India, 12,000 in Turkistan, and 1,000 in China.

The number in the United States is estimated at 300,000, and 8,000 in South America; in Oceania and Australia, at the most, 20,000.

At the Council of the Union of American Hebrew Congregations held at Chicago, Illinois, in July, the Committee on Statistics reported that there were in the United States, in the year 1878, 278 congregations, with a membership of 12,546, and the number of Israelites, as far as could be ascertained, was 230,257; and, making fair allowance for such cities, towns, or villages, from which no information could be derived, the Jewish population of the United States can be safely placed at 250,000.

The "Jewish World" publishes the following statistics of the Jews of the world, recently compiled by the German ethnographical scholar, Richard Andree:

EUROPE :	
Roumania.....	400,000
European Russia.....	2,552,549
Austro-Hungary (1869).....	1,372,333
German Empire (1875).....	520,575
Holland (1869).....	68,003
European Turkey (before the last war).....	71,372
Luxemburg (1875).....	661
Switzerland (1870).....	6,996
Denmark (1870).....	4,290
Great Britain and Ireland (1878).....	68,800
Servia	2,000
France (1872).....	49,439
Italy (1871).....	35,356
Greece (1870).....	2,582
Belgium (1878).....	3,000
Sweden (1870).....	1,836
Norway (1875).....	84
Spain	6,000
Portugal.....	1,000
Total in Europe	5,166,826
Africa.....	402,996
Asia.....	182,847
America.....	307,963
Australia.....	20,000
Grand total.....	6,080,182

This does not include the Falashas, who number about 200,000, and other pseudo-Jews.

Agitation in Germany against the Jews has been a serious affair. There naturally arise in relation to it the following questions, viz. : Who are the parties attacked, and who are the assailants? What faults are the Jews accused of? In what way is their influence held to be injurious to political, economical, or social life in Germany? What practical measures are proposed? And in what spirit do the Jews meet the charges, and how do they repel the accusations made against them?

1. The word "Jew" is used in its strictly religious sense, and also as applied to the Jew-

ish race. The agitation is directed mainly against the Jews as a race, although many of these have become Christians, and many have abandoned altogether attendance at the synagogues and places of Jewish worship. The "Anti-Semitic League" is the title adopted by the society inimical to and working against the Jews; and it includes men who, in other respects, are antagonistic to each other in political and religious opinion.

2. Generally speaking, it is said, "Things in Germany are unsatisfactory, and the Jews are the cause of it"; and, though there are Jews in all European countries, their influence, it is averred, is greater in Germany than elsewhere, and the German Jews are more disagreeable than those of other countries. There are said to be 650,000 Jews in Germany, and only 50,000 in Great Britain, and the same number in France. The Jews, both orthodox and reformed, are, it is alleged, conceited and vain, and quite lacking in modesty. They are also accused of being irreligious, and especial haters of Christianity; as, in short, the most intolerant and stubborn race on the face of the earth. Further, they are charged with servility, self-seeking, sensuality, and abhorrence of honest work.

3. One energetic writer denounces the Jews in Germany as "dunces and destroyers of human sociability and co-operation." Numbers of these are members of the bar, and, as the intervention of counsel is compulsory in Germany, these men gain by it in money and otherwise. Bismarck, it is claimed, made use of the National Liberal party to accomplish the unity of the German Empire. The Jews were largely members of this society, and, when Bismarck did not want its help any longer, the Social Democrats charged that the Jews were the ruin of the party. Various measures in the direction of progress are due to the Jews, and by these they have produced feelings of hatred in the community. It is further charged that the Jews have gained possession of the press; that they sway or manufacture public opinion in a vast variety of ways; and that they are incapable of self-denying devotion to the state in its civil service. In regard to the economic life of the German nation, the Jews are charged with having been more acute than their neighbors, and with having made money in speculation and the like when most of the people were ruined. Hence, it is said that the Jews have robbed the Christians. The law on joint-stock companies, the introduction of a gold currency, and the founding of the German Imperial Bank, are all said to be in the Jewish interests. Still worse, in the agricultural districts, the Jews are charged with overreaching the peasants, and trying to get their land from them by obtaining heavy mortgages, foreclosing them, and driving out the owners. The Jews seem to be rich and luxurious everywhere, and can get the best of everything. One bitter enemy says, worst of all, that nine

tenths of the prostitutes in Paris, Vienna, Berlin, and Budapest, are Jewesses.

4. In regard to the practical measures proposed by the agitators, in order to accomplish their designs, one writer suggests that the Jews be restrained in the matter of mortgages on property; that the regulations of stock-exchange transactions and joint-stock companies be altered; that Jewish judges be appointed only in proportion to the Jewish population; that Jewish teachers be expelled from primary schools; and that, "above all, there be a strengthening of the old Christian Germanic spirit." Another writer proposes to strike out of the Jewish religious service anything that is anti-national. If this be objected to by the Jews, then crush the religion entirely. Also, make all public appointments in proportion to the population, and allow anybody to refuse to be tried before a Jewish judge, and any judge to reject Jewish evidence. It is further proposed to "mediatize" the fortunes of wealthy Jews (that is, in reality, to "confiscate" them); to allow no Jew to be a mortgagee, editor, or contributor to a public journal, or to hold real property, or to immigrate into Germany, or to teach in any except Jewish schools. These are the extremest measures proposed, although many, who deem Jewish influence prejudicial to Germany, do not sympathize with coarse invective and violent expedients.

5. Naturally, the Jews in Germany are indignant against the various charges put forth by their enemies. A general denial is made, and specific accusations are met with argument and evidence of facts. Some claim the distinctiveness of their race as a right, and ascribe to it a special mission and superior powers. The majority of German Jews, however, think differently, and claim that the Jews, in their native land, are really and truly Germans, or fast becoming such. Complaints against Jewish usurers and promoters are freely acknowledged; but, on the other hand, it is averred that exaggerated statements are made in regard to these. As to the press, it is stigmatized by the Jews as a myth, that they have preponderating influence in this respect, and various prominent journals are named as having hardly any Jews on their staff. In respect to the alleged general feeling of antipathy to the Jews, writers in their defense affirm that it is both extravagant and unjust to charge them with being the causes of all the evils of the times, or to defame them all as speculators, usurers, or old-clothes dealers. That German Jews are largely irreligious may be admitted as true; but, it is said, in reply, Germans who are not Jews are equally open to the charge of irreligion. And, finally, as the Jews are found in all schools and parties, in politics, art, and religion, it is not fair to condemn them unqualifiedly, as is done by the agitators. They have acquired their wealth, it is claimed, by energy, skill, and habits of

thrift and self-denial; and they demand, as their right, to have mind and feeling, rather than race, regarded as true criteria of good citizenship and national character.

But it is in Russia that the persecutions of the Jews have been of a most violent character, causing the destruction of families and whole villages. The scenes of these horrors have taken place in a tract of country in Russia extending from the Baltic to the Black Sea, and containing an area equal to that of France and Great Britain combined. Ever since the movement was begun against the Jews in Germany, the apprehension has prevailed that it would extend to Russia, and take a form more adapted to the less civilized state of the country. Early in April rumors of a rising had reached Elizabethgrad, and caused the heads of the Jewish community, consisting of 10,000 of the 30,000 inhabitants, to apply for special protection from the governor. No notice was taken of the application, and on April 27th a fearful outbreak took place.

A very authentic account* relates that a religious dispute in a *cabaret* led to a scuffle which grew into a general *mêlée*, till the mob obtained possession of the dram-shop and rifled it of its contents. Inflamed by the drink thus obtained, the rioters proceeded to the Jewish quarter, and commenced a systematic destruction of the Jewish shops and warehouses. At first some attempt was made by the Jews to protect their property; but this only served to increase the violence of the mob, which proceeded to attack the dwellings of the Jews and to wreck the synagogues. "Amid the horrors that ensued a Jew named Zololwenski lost his life, and no fewer than thirty Jewesses were outraged. At one place, two young girls, in dread of violation, threw themselves from the windows. Meanwhile the military had been called out, but only to act at first as spectators and afterward as active participants. One section of the mob, formed of rioters and soldiers, broke into the dwelling of an old man named Pelikoff, and on his attempting to save his daughter from a fate worse than death, they threw him down from the roof, while twenty soldiers proceeded to work their will on his unfortunate daughter. When seen by the correspondent who narrates this fact, Pelikoff was in a state of hopeless madness, and his daughter completely ruined in mind and body. The whole Jewish quarter was at the mercy of the mob till April 29th. During the two days of the riots, five hundred houses and one hundred shops were destroyed, whole streets being razed to the ground. It may be added that the property destroyed and stolen was reckoned at 2,000,000 rubles."

The foes of the Jews were encouraged to wider and more systematic attacks, by the evidence furnished, through these scenes, of a pent-up anti-Jewish passion. Placards were distributed by professional ringleaders from Great

Russia, in which it was declared that the Czar had given his orthodox subjects the property held by the Jews. Hence, after a week's pause, a whole series of riots broke out, commencing on May 7th, at Smiello, near Czer-gass, where thirteen men were killed and twenty wounded, and 1,600 were left without homes. Next day, Sunday, May 8th, a most serious riot broke out at Kiev, once the capital of Russia, and still an important town, containing 20,000 Jews in a population of 140,000. Here the riot had been definitely announced for the Sunday, and the Jews sent a deputation to the governor, requesting him to call out his soldiers to prevent disturbance. He bluntly refused, saying that he would not trouble his soldiers for the sake of a pack of Jews. During the riot, which broke out on the day fixed, the police and the soldiers again acted the same part they had at Elizabethgrad. The first procedure of the mob had been to storm the dram-shops, and, staving in the brandy-casks, to make themselves drunk with the liquor. During the period of license that followed, four Jews were killed, and twenty-five women and girls were violated, of whom five died in consequence, as was proved at the subsequent trials. At the house of Mordecai Wienarski, the mob, disappointed in the search for plunder, caught up his little child, three years old, and brutally threw it out of the window. The child fell dead at the feet of a company of Cossacks who were drawn up outside, yet no attempt was made to arrest the murderers. At last, when several houses were set on fire, the military received orders to make arrests, which they proceeded to execute with much vigor, making 1,500 prisoners, among whom 150 were Jews, arrested for protecting their lives and properties. No less than 2,000 Jews were left without shelter by the dismantling or the burning of their houses, and for the relief of immediate necessities a Kiev committee soon afterward had to disburse the sum of £30,000.

Next day similar scenes of violence occurred at Browary, in the neighborhood of Kiev, in the province of Czernigow. On the same day still more disgraceful deeds were enacted at Berezowka, in the government of Cherson. Here lust seemed more a principal motive than plunder. While the Jews of the village were at synagogue, a mob attacked the Jewesses and violated many of them, causing the death of three; others who escaped the worse evil were driven into the river, and nine ultimately died from the effects of the exposure. When the Jews came to the rescue, two of them were killed and a young lad stoned to death.

On the next day, May 10th, the neighborhood of Kiev was again visited at Konotop and Wassilkov. The attacks had been planned at both places. At the latter place eight lives were lost, seven at an inn kept by a Jew named Rykelman. He was forced to admit the mob to his wine-cellars, and, during his absence in

* Correspondence of the London "Times."

search of assistance, the drunken rioters cut the throats of his wife and six children.

By this time the chief towns and villages of Southern Russia were ablaze with violence and riot. Throughout the whole of the governments of Cherson, Taurida, Ekaterinoslav, Poltava, Kiev, Czernigov, and Podolia, the notion spread fast as wild-fire that the Jews and their property had been handed over to the tender mercies of the populace. At Wasilgin, the mayor even read a copy of the supposed ukase to the citizens, and a riot would have ensued had not the village priest done his duty, and declared his belief that no such ukase existed. At Alexandrovsk, on the banks of the Dnieper, the operatives carried out what they thought to be the will of the Czar, on May 13th, rendering 300 out of the 400 Jewish families of the place homeless, and destroying property to the amount of 400,000 rubles. As usual, the riots were previously announced, and the appeal to the governor to send for additional troops proved fruitless. At Ekaterinoslav, a projected riot was happily prevented by the issue of a proclamation by the local authorities, declaring the Jews to be true subjects of the Czar, and entitled to protection of their property. At Polonnoze, near Kiev, a disaster was averted by the forethought of the mayor, who changed the market-day to Saturday; and, on the peasants complaining, he read them a lesson on the utility of the Jews as middle-men, and induced them to promise not to molest their Jewish fellow-citizens.

From Alexandrovsk the instigators paid a visit to the Jewish agricultural colonies in the province of Ekaterinoslav, which have been established for more than forty years. The chief centers—Gulaypol, Orjehow, and Marianpol—were visited in turn, and, though no violence seems to have been done to the persons of the Jews, their farms were almost entirely destroyed. At Orjehow, the instigators who led the mob were dressed as police-officers, and produced a document falsely professing to be the proclamation of the Czar. The farming implements were all destroyed, and 500 cattle and 10,000 sheep driven off. At Kamichewka, the Jews adroitly turned the supposed ukase of the Czar into a safeguard. Hearing that the rioters were advancing to attack, they brought the keys of their houses to their Christian neighbors, saying that, if the ukase were true, it would be better that their neighbors should have their property than the rioters; and, if the ukase proved to be untrue, of course their good neighbors would return the keys. The Christians of the village accordingly repulsed the rioters, and, in a few days, the Jews of Kamichewka were again in possession of their property.

Up to this time the riots had chiefly arisen among the urban populations, but they now spread into the rural districts, and reached every little village where even a single Jew resided.

Meantime the sea-port Odessa had likewise been the scene of an anti-Jewish riot. Originally announced for May 13th, it was postponed till Sunday, May 15th, without, however, any precautions being taken by the governor, who had, as usual, been duly warned of the impending outbreak. Though only lasting for six hours, the riot resulted in the death of a Jew named Handelsmann, and eleven cases of violation are reported, one resulting in death. Here the Jews seem to have been most energetic in their resistance. Of the 800 arrests made, 150 were Jews, 26 of whom were afterward charged with carrying revolvers without a permit. The police estimated the damage done at 1,137,831 rubles, while those more immediately concerned raised the sum to 3,000,000. Similar scenes took place on the same day at Wolvezysk, on the borders, where a riot had been announced for the Sunday. A week afterward the lower orders of Berdyczew rose against the Jews, and, on May 24th, a riotous disturbance occurred at Zmerinka, in Podolia.

Thus, within a month of the first outbreak, almost every town of importance in Southern Russia had seen such horrors as above described. Apart from the influence of ringleaders, the rioters had no cause to incite them to rapine except the force of contagion and the impression that the Czar had really transferred all Jewish property to his orthodox subjects. If once this impression had been officially removed, the epidemic would have been checked. In many cases it was distinctly shown that the peasants liked the Jews, and only pillaged because they thought it had been ordered. At Bougaifka, for example, a few days after the peasants had destroyed the property of the Jews, they became contrite, and gave their Jewish neighbors eight hundred rubles as some compensation for the damage they themselves had caused. In the face of such a fact, it is tolerably certain that, if the supposed proclamation had been energetically and officially denied, the riots might never have reached the extent that they eventually did. The contagion spread as far as Saratov in early June, and thence to Astrakhan; it even reached a town near Tomsk, in Siberia, and caused an anti-Jewish riot there. The only bright spot in all this gloom was the condition of Poland, where Jews and Poles have always lived in amity. This continued until General Ignatieff directed the Governor of Poland to appoint commissions of experts to consider how the Jews should be dealt with, to which fact persons on the spot attribute the rise of anti-Jewish feeling that culminated in the Warsaw riots. But outside of Poland these outbursts of popular prejudice placed a population of nearly two millions in perpetual dread of their lives and property. At times they dared not remove their clothes night or day, fearing that they might have to flee at any moment. Ever since last April that feeling of fear and insecurity has ruled the lives of all Russian Jews.

Not a month, scarcely a week, has passed since then without some outbreak or other occurring to confirm these fears and render them the more acute.

The outrages recounted above have been selected from a list of over 160 towns and villages in which cases of riot, rapine, murder, and spoliation have been known to occur during the last nine months of 1881. Out of these information was collected from about forty-five towns and villages in Southern Russia. In these alone are reported 23 murders of men, women, and children, 17 deaths caused by violation, and no fewer than 225 cases of outrages on Jewesses.

Finally, this catalogue of horrors must be concluded by a reference to the riots at Warsaw on Christmas and the following days. The detailed events of those days, when 300 houses and 600 shops were pillaged and devastated, and thousands of victims rendered homeless and reduced to beggary, are doubtless fresh in every one's memory, but certain facts must be again referred to, owing to their typical character. In the first place, the riot was clearly planned, the alarm of fire being simultaneously raised in at least two churches, and the mob being directed by men who spoke Polish with a Russian accent. The culpable neglect of the military authorities of Warsaw in refusing to make use of the 20,000 men forming its garrison, finds its counterpart in the similar behavior of the Governors of Kiev, Elizabethgrad, and Odessa, earlier in the year.

Besides appealing to the blind passions of the mob, the Jew-haters of Russia have, during the year, resorted to more systematic efforts to harass the hapless Israelites. The Russian *mujik* has a method almost peculiar to himself of expressing his rage and hatred. Moscow is but the most celebrated instance of periods of Russian history when incendiarism has been the order of the day. Whenever the fever-point of excitement is reached, arson is usually the direction in which it overflows. So well is this recognized in Russia, that the peasants have a technical name for the deliberate firing of towns—the "red cock" is said to crow. During the past year this method of revenge has been resorted to on a large scale against the Jews of Russia, especially in the west. By the end of June the "red cock" had crowed over fifteen towns in Western Russia, including Mohilev, containing 25,000 inhabitants, Vitebsk, with 23,000, and Slonim, with 20,000, as well as smaller towns like Wolcowysk, Scherwondt, Augustowo, Nowo-Guedek, Ponowiez, and Lipsk. Many thousands of Jews were rendered homeless by this means, and on July 3d, 6,000 Jews lost their homes by fire at Minsk, 4,800 being deprived of every means of subsistence at the same time. The town of Pinsk, in the same government, suffered a like fate. And shortly afterward a conflagration took place at Koretz, in Volhynia, in which thirty lives were lost, and 5,000 souls left without a home. Every week added to the number of

fires in towns inhabited by Jews, till, by the end of September, the list extended to forty-one towns. This probably involved the loss of home to 20,000 Jews.

To the mass of homeless and penniless creatures in Southern Russia must be added the many victims of pillage. The violence of the mobs often wreaked whole streets of houses as completely as any fire, and 2,000 were thus rendered homeless at Kiev, 1,600 at Smiello, 1,000 at Konotop, 600 at Ouchow, and 300 at Aluchoff. The value of property destroyed in the south has been reckoned to reach £16,000,000 sterling.

The steps taken by the Government in relation to these disturbances may be stated in a few words. On May 23d the Czar, having been appealed to by a deputation of Jews in St. Petersburg, expressed his intention of dealing with the evil. An agent was dispatched to the south to make inquiries. He returned and reported that further inquiries were necessary. General Ignatieff now introduced a measure by which the provincial assemblies might be superseded by local committees of experts on this special subject, and on September 3d the following declaration was issued:

For some time the Government has given its attention to the Jews, and to their relations to the rest of the inhabitants of the empire, with the view of ascertaining the sad condition of the Christian inhabitants brought about by the conduct of the Jews in business matters.

For the last twenty years the Government has endeavored, in various ways, to bring the Jews near to its other inhabitants, and has given them almost equal rights with the indigenous population. The movements, however, against the Jews, which began last spring in the south of Russia, and extended to Central Russia, prove incontestably that all its endeavors have been of no avail, and that ill-feeling prevails now as much as ever between the Jewish and the Christian inhabitants of those parts. Now, the proceedings at the trial of those charged with rioting and other evidence bear witness to the fact that the main cause of those movements and riots—to which the Russians, as a nation, are strangers—was but a commercial one, and is as follows:

"During the last twenty years the Jews have gradually possessed themselves of not only every trade and business in all its branches, but also of a great part of the land by buying or farming it. With few exceptions they have, as a body, devoted their attention not to enriching or benefiting the country, but to defrauding by their wiles its inhabitants, and particularly its poor inhabitants. This conduct of theirs has called forth protests on the part of the people, as manifested in acts of violence and robbery. The Government, while on the one hand doing its best to put down the disturbances and to deliver the Jews from oppression and slaughter, have also, on the other hand, thought it a matter of urgency and justice to adopt stringent measures in order to put an end to the oppression practiced by the Jews on the inhabitants, and to free the country from their malpractices, which were, as is known, the cause of the agitation."

With this view, it has appointed commissions (in all the towns inhabited by Jews), whose duty it is to inquire into the following matters:

1. What are the trades of the Jews which are injurious to the inhabitants of the place?
2. What makes it impracticable to put into force the former laws limiting the rights of the Jews in the

matter of buying and farming land, the trade in intoxicants, and usury?

3. How can those laws be altered so that they shall no longer be enabled to evade them, or what new laws are required to stop their pernicious conduct in business?

4. Give (besides the answers to the foregoing questions) the following additional information: (1.) On the usury practiced by the Jews in their dealings with Christians, in cities, towns, and villages. (2.) The number of public-houses kept by Jews in their own name, or in that of a Christian. (3.) The number of persons in service with Jews, or under their control. (4.) The extent (acreage) of the land in their possession, by buying or farming. (5.) The number of Jewish agriculturists.

In addition to the above-mentioned information to be supplied, every commission is empowered to report on such conduct and action of the Jews as may have a local interest and importance, and to submit the same to the ministry.

There are those who assert that the direct cause of the objection of the Russians to the Jewish people is the natural result of the Russian laws, which restrict their rights and mark them off from the rest of the inhabitants; and they assert that the only solution of the question is to grant to the Jews full equality with citizens.

The "Official Messenger" of St. Petersburg made, in February, 1882, the following statement relating to the arrests of the rioters:

The number of persons arrested during the anti-Jewish disorders and brought to punishment, as far as the Government is at present informed, was as follows: General Government of Kiev, up to 1,000 persons. In the town court and province of Kiev, 105 were tried by court-martial, and 274 expelled from the town. In Odessa, those arrested numbered altogether 801; dealt with by courts and administrative order, 243; expelled from the town to places of nativity, 558. In Taurida the Government arrested 124; 80 were tried by courts, and 8 by administrative order. More than 30 have been liberated. In Elisabetgrad, and other parts of the Kherson Government, 900 were arrested. In Ekaterinoslav, the Government arrested 341, and 296 were committed for trial. In the Nizhnee-Chernigov Government 344 were arrested, and in different parts of the Poltava Government 165. In the Kharkov Government, out of an unknown number arrested, 795 were tried by court-martial from June to December. During the Warsaw riots in December, 3,151 persons were arrested, of whom 2,302 were committed for trial.

These figures show that the measures for suppressing the disorders were not feeble.

JOHNSON, ABRAM, died in Salem, Wayne County, Pennsylvania, April 11, 1881; he was born in Vermont in 1773, and was one hundred and eight years old at the time of his death. His father was a soldier in the Revolution, the family then residing near Lake Champlain. Abram enlisted as a private in the War of 1812, but his gallantry soon won him the promotion of a captaincy to a band of Oneida Indians, under the command of General Macomb. In the battle of Plattsburg he received severe wounds, of which one was a saber-cut from the lusty arm of a British soldier, which knocked him down. Fearing further injury, Johnson feigned death, and while in this disabled and apparently lifeless condition he was again wounded by another Briton, who bru-

tally thrust a bayonet into his knee. This last injury caused him such acute anguish that it required all the desperation of fear of capture and heroic nerve to sustain him in acting the rôle he had assumed as the only means of escaping captivity and death. At night, after the battle, his Indian soldiers found and carried him back to their camp. Oneida, an Indian maiden, and the daughter of a chief, took the wounded "white man" under her care, and tenderly nursed him back to health. While his bodily hurts were healed by this soft ministry, the hero's heart fell a victim to the dusky charms of Oneida's sixteen summers, and soon after the establishment of peace she became his wife. They resided in New York for a time, and subsequently in Sussex County, New Jersey, where Oneida fell ill, and desired to be taken home to her tribe to die. With all the pomp of Indian burial she was laid to rest among her people. Mr. Johnson returned to his native town, Salem, where he resided until his death. Misfortune in business and speculations reduced him to the sad condition of a pauper, dependent on the charity of the town; for, although entitled to a pension, he never claimed it. His mind was sound to the last, and his bodily activity was remarkable in one so old. His only daughter attached herself to the Oneida Indians, and married the son of a chief.

JONES, JOHN B., born in Fairfield District, South Carolina, December 23, 1834; died in Texas, July 19, 1881. He was the son of Colonel Henry Jones, a South Carolina planter, who emigrated to Texas in 1839. This family was among the pioneer settlers of that State. The subject of this sketch was sent to his native State to be educated, and graduated at Mount Zion Institute. On his return to Texas he embarked in the business of farming and stock-raising, which he pursued industriously and with marked success until the beginning of the civil war, when he entered the army as a private soldier in Colonel Terry's Texas Rangers. After serving with this regiment a month, he was appointed adjutant of the Fifteenth Texas Infantry, and remained in the Trans-Mississippi department throughout the war—serving in Texas, Arkansas, Louisiana, and Indian Territory. In most of the principal battles in this department Colonel Jones was actively engaged, and distinguished for coolness in council and gallantry on the field. In 1863 he was appointed adjutant-general of a brigade, with the rank of captain, and acted as such for Speight's, Pohnie's, and Harrison's brigades. In 1864 he was recommended for promotion to the office of major in his regiment, by Colonel Harrison, Generals Green, Polignac, Mouton, Taylor, and Kirby Smith, for gallantry in action. The appointment was made, but failed to reach him before the close of the war. After the end of hostilities, Colonel Jones traveled through Mexico and Brazil, seeking a home, but was dissatisfied and returned to

Texas. In 1868 he was elected to the State Legislature from the district composed of Navarro, Hill, Kaufman, and Ellis Counties, but was counted out by the Republican returning-board and did not take his seat. In May, 1874, he was appointed by Governor Coke major of the Frontier Battalion. He raised and took command of six companies of rangers, for operations on the frontier, and in this service he remained nearly five years. While in command of these rangers he had a number of Indian fights, and in one engagement he defeated one hundred and fifty warriors with only thirty-seven men. He also captured or dispersed many bands of outlaws and desperadoes, with which the Texan frontier was then infested. In several localities he with marvelous tact and coolness settled deadly feuds, and restored peace to the neighborhoods. Often, at night, alone in the vast wilderness of the frontier, he met by appointment the most desperate men, probably, in the world, and, by reasoning with them, caused their return to peaceful lives in their own homes. These outlaws were said to fear Colonel Jones more than any other man, and regarded him as the embodiment of courage, honor, and truth, so that his promises to them were relied on with implicit faith. In January, 1879, Governor Roberts appointed him Adjutant-General of the State, and this position he held at the time of his death, having conducted the office with a success and ability unsurpassed in the history of the State. General Jones was a prominent and honored mason, and in 1872 was Grand High Priest of the Grand Chapter of Royal Arch Masons of Texas. In 1878 he was appointed, by Governor Hubbard, one of the three commissioners to investigate the El Paso troubles with Mexico, two of these commissioners being officers appointed by the President of the United States, selected by the Government from the regular army. The difficulty was satisfactorily adjusted, and the services of General Jones were acknowledged to be of great value. Personally, he was distinguished for those high qualities that ennoble the life of a man, and shed a wholesome influence upon the society of which he is a member.

JUTE, the fiber of species of *Corchorus*, as *C. capsularis* and *C. olitorius*. The name is also applied to the plant. The genus *Corchorus* belongs to the order of *Tiliaceæ*, the best-known representative of which is the linden, or bass-wood tree. The species that furnish the fiber are annuals, natives of Asia, and grow to be about ten or twelve feet high. Young shoots of *Corchorus olitorius* are used as pot-herbs in Egypt and Syria, and are cultivated for that purpose. The fiber of jute is contained in the bark of the stems, which are cut when the blossoms begin to appear, and is separated after macerating the stems in water. It is between eight and twelve feet long, and has the general appearance of hemp, but is softer and more silky. It is adapted for manu-

facture into goods that are not to be much exposed to the weather. It is used principally for making gunny-bags, or coarse coffee-sacks; also for burlaps, cheap carpeting, matting, and for an imitation of false hair. The coarser and refuse parts of the fiber are made into paper-stock. During the year ending January 1, 1881, 56,606 bales of jute were imported into the United States, giving a total value, at the average price of from eighteen to twenty dollars a bale, of about a million dollars. The importation has not essentially increased for a considerable period, but has fluctuated greatly during the last ten years. Thus, it amounted in 1872 to 97,059 bales; in 1873, to 39,404 bales; in



JUTE (*CORCHORUS CAPSULARIS*).

1874, to 27,496 bales; in 1875, to 28,804 bales; in 1876, to 25,284 bales; in 1877, to 22,629 bales; in 1878, to 45,181 bales; and in 1879, to 74,215 bales. In England, the yearly consumption amounts to more than a million bales. The great inferiority in the amount of the material brought to the United States is partly due to the operation of the American tariff, which is so levied as to work a discrimination in favor of manufactured jute; and it is cheaper to import the yarn or the woven cloths from the mills at Dundee, Scotland, than to import raw jute, and spin and weave it here. The business of manufacturing jute is more prosperous in California than in the Atlantic States, for the raw fiber may be brought there directly from India at less charges for freight than rule at the Eastern ports, while the long land-carriage across the continent adds greatly to the expense of bringing the manufactured goods from England, so as partly to offset the discrimination effected by the tariff. Experiments in the cultivation of jute on the reclaimed marsh-lands of Louisiana have been attended with encouraging results. The returns from the efforts made show, according to statements that have been published in New Orleans, that

land just reclaimed from the marsh, and still matted with roots, can be at once seeded in jute; and that the plant will then make so vigorous a growth as to supplant all other vegetation. Mr. John Sloane, of the Dolphin Mills, who is engaged in the manufacture of jute, has represented, after his observations of experiments in growing the plant in the Southern States, that as good a product can be raised there as in India, but that difficulties arise in

securing a proper treatment of the plant after it is cut; so that it is hardly practicable, under the American system of labor and wages, to obtain a good fiber for an economical price. And in view of the difference between the rates of wages in the United States and in India, no hopeful prospect exists that American jute will be able to compete with the Indian product, until machinery has been devised and applied to take the place of manual labor.

K

KALNOKY, Count GUSTAV, the new Austrian Minister of Foreign Affairs, was born in 1832. He is descended from the Moravian branch of an old Hungarian family. He entered the army at an early age, but changed to the diplomatic service when twenty-two years old. He was successively *attaché* in Munich and Berlin, then counselor of legation in London, *chargé d'affaires* at the Holy See, and was finally appointed Ambassador at Stockholm, which position he resigned for that of Ambassador at St. Petersburg. When Baron Haymerle died, Count Kalnoky was barely mentioned as his successor. He was, however, finally selected, as his personal relations with the court of St. Petersburg were of such a friendly character that it was expected he would be able to bring about that political union between Austria and Russia which seemed to be, in view of the strong friendship existing between Germany and Austria, a natural consequence of the imperial meeting at Dantzie. As Count Kalnoky is firm in his convictions of the advantages of a union of the three empires, the Hungarians, who regard Russia as their hereditary enemy, and are opposed to a union of Austria and Russia, are but little pleased with his appointment. Count Kalnoky is the twentieth Minister of Foreign Affairs since Prince Kaunitz.

KANSAS. The presidential vote in 1880 was as follows: For the Garfield electors, 121,549; Hancock electors, 59,801; Weaver electors, 19,851; Dow, 25. Only local elections occurred during the present year. The Legislature, consisting of 37 Republicans and 3 Opposition in the Senate, and 112 Republicans and 13 Opposition in the House, met on the 11th of January, and remained in session until March. An act for the protection of cattle against contagious disease, passed at this session, punishes with fine and imprisonment any person or persons who shall drive or cause to be driven into or through any county in the State, any cattle having a disease known as Texas, splenic, or Spanish fever. The public officers are required to take possession of any cattle so diseased. It is provided that, in the trial of any person or persons charged with the violation of any of the provisions of this act, proof that the cattle, which such person or persons are charged

with driving, are wild and of undomesticated habits, shall be taken as *prima facie* evidence that said cattle are diseased with the disease known as Texas, splenic, or Spanish fever.

Any person or persons who shall drive or cause to be driven into or through any county in this State, any of the cattle mentioned in section 1 of this act, in violation of this act, shall be liable to the party injured for all damages that may arise from the communication of disease from the cattle so driven, to be recovered in civil action, and the party so injured shall have a lien upon the cattle so driven.

An act to provide for the organization and management of the State Reform School empowers courts of record and probate courts of the State to commit to the Reform School, first, any boy under sixteen years of age who may be liable to punishment by imprisonment under any existing law of the State, or any law that may be enacted and in force in the State; second, any boy under sixteen years of age, with the consent of his parent or guardian, against whom any charge of committing any crime or misdemeanor shall have been made, the punishment of which, on conviction, would be confinement in jail or prison; third, any boy under sixteen years of age who is incorrigible, and habitually disregards the commands of his father or mother or guardian, and who leads a vagrant life, or resorts to immoral places or practices, and neglects and refuses to perform labor suitable to his years and condition, and to attend school.

It provides that every boy committed to the Reform School shall remain until he is twenty-one years of age, unless sooner discharged, or bound as an apprentice; but no boy shall be retained after the superintendent shall have reported him fully reformed; and whenever any boy shall be discharged therefrom as reformed, or as having arrived at the age of twenty-one years, such discharge shall be a full and complete release from all penalties and disabilities which may have been created by such sentence.

The board of trustees shall have full power to place any boy committed as herein described, during his minority, at such employment, and cause him to be instructed in such branches of useful knowledge, as may be suitable to his years and capacity, as they may see fit; and

they may, with the consent of any such boy, bind him out as an apprentice during his minority, or for a shorter period, to learn such trade and employment as in their judgment will tend to his future benefit; and the president of the board shall for such purpose have power to execute and deliver on behalf of said board indentures of apprenticeship for any such boy, and such indentures shall have the same force and effect as other indentures of apprenticeship under the laws of the State, and be filed and kept among the records of the Reform School, and it shall not be necessary to record or file them elsewhere.

Another act provides that upon the receipt of any money by the State Treasurer from the United States, in payment of the claims of the State, for which State bonds have been issued, it shall be the duty of the State Treasurer to place the amount or amounts so received to the credit of the sinking fund, for the final redemption of the State bonds so issued, save and except such sum as may be appropriated for the payment of Price raid claims.

An act to provide revenue for the fiscal years ending June 30, 1882, and June 30, 1883, declares that for the purpose of raising revenue to defray current expenses of the State government and to pay the interest on bonds of the State, and create a sinking fund for the redemption of bonds, there is hereby levied, and the proper officers shall collect a tax, upon all property in the State subject to taxation, as follows: For current expenses for the fiscal year ending June 30, 1882, four mills, and for the fiscal year ending June 30, 1883, three and a half mills; for continuance of work on State-House, one half of one mill on the dollar each year; for the payment of interest, four tenths of one mill on the dollar each year; for the sinking fund, one tenth of one mill on the dollar for each year.

An act was also passed creating the county of St. John, and defining the boundary thereof; and defining the boundaries of the counties of Sheridan, Thomas, Gove, Wallace, Lane, and Gray.

Another act establishes a State road from the penitentiary, in Leavenworth County, to Rosedale, in Wyandotte County.

Several bills were introduced, designed to enforce the prohibitory amendment to the Constitution. They resulted in the passage of an act to prohibit the manufacture and sale of intoxicating liquors, except for medical, scientific, and mechanical purposes, and to regulate the manufacture and sale thereof for such excepted purposes, the principal provisions of which are as follows:

SECTION 1. Any person or persons who shall manufacture, sell, or barter any spirituous, malt, vinous, fermented, or other intoxicating liquors, shall be guilty of misdemeanor, and punished as hereinafter provided: *Provided, however,* That such liquors may be sold for medical, scientific, and mechanical purposes, as provided in this act.

Sec. 2. It shall be unlawful for any person or per-

sons to sell or barter, for medical, scientific, or mechanical purposes, any malt, vinous, spirituous, fermented, or other intoxicating liquors, without first having procured a druggist's permit therefor from the probate judge of the county wherein such druggist may at the time be doing business; and such probate judge is hereby authorized, in his discretion, to grant a druggist's permit, for the period of one year, to any person of good moral character who is lawfully and in good faith engaged in the business of a druggist in his county, and who, in his judgment, can be intrusted with the responsibility of selling said liquors for the purposes aforesaid, in the manner hereinafter provided. In order to obtain a druggist's permit under this act, the applicant therefor shall present to the probate judge of the county wherein such person is engaged in business, a petition, signed by at least twelve citizens of the township or city wherein such business is located, certifying that the applicant is a person of good moral character, and lawfully engaged in the business of a druggist. He shall also file with such petition a good and sufficient bond to the State of Kansas. . . .

SEC. 3. Any physician, who is regularly engaged in the practice of his profession as a business, and who, in cases of actual sickness, shall deem any of the liquors mentioned in the first section of this act necessary for the health of his patient, may give such patient a written or printed prescription therefor. But no such prescription shall be made or given, except in case of actual sickness, and when, in the judgment of such physician, the use of intoxicating liquor is necessary as a remedy. Whenever, in the treatment of a minor, it shall be necessary to use intoxicating liquor as a remedy, the same shall be procured by his parent, or guardian, or some other person of full age, to whom such physician may deliver a prescription for that purpose. Every physician, before making any prescription for intoxicating liquor, shall make and file with the probate judge of the county wherein he may practice his profession, an affidavit before some officer of the county, authorized to administer oaths, in substance as follows:

STATE OF KANSAS, COUNTY OF —, ss.

I, A— B—, do solemnly swear that I am a practicing physician of the State of Kansas, residing in the county of —, in said State, and I do further solemnly swear that I will not prescribe intoxicating liquors of any kind for any person or persons whomsoever, unless in case of actual sickness, and when the same is necessary for the health of the patient; that I will in all things faithfully keep, observe, and perform all the requirements and conditions of the laws of Kansas regulating the sale and use of intoxicating liquors. So help me God.

(Signed) —

Sworn to before me, and subscribed in my presence, this — day of —, A. D. 18—.

And such affidavit shall be renewed and filed at the expiration of each five years of said physician's practice. . . .

SEC. 4. Any druggist having a permit to sell intoxicating liquors under the provisions of this act may sell for medical purposes only upon the written or printed prescription of a practicing physician, duly signed by such physician, and who has made and filed the affidavit mentioned in the preceding section; and for scientific and mechanical purposes only upon a written or printed application, which shall be dated, and shall set forth the name of the applicant, his residence and occupation, the quantity and kind of liquor required, and the purpose for which it is required, and shall have appended thereto an affidavit by the applicant, made before some officer authorized to administer oaths in his county, that the statements contained in such application are true; and all such applications shall be retained by the druggist selling thereon, and at the end of every thirty days, or sooner, shall be by him filed in the probate court out of which

his permit issued, where they shall be safely kept for the period of two years from the date of the filing of each: . . . *Provided, however,* That no sales of intoxicating liquors shall be made by any such druggist, knowingly, to any minor in any case, except upon prescription for medical purposes, as in this act provided: . . . *Provided,* That any druggist having a permit to sell intoxicating liquors under this act may sell such liquors in quantities not less than one gallon to any other druggist having a like permit.

Sec. 5. No person shall manufacture or assist in the manufacture of intoxicating liquors in this State except for medical, scientific, and mechanical purposes. Any person or persons desiring to manufacture any of the liquors mentioned in section 1 of this act for medical, scientific, and mechanical purposes, shall present to the probate judge of the county wherein such business is proposed to be carried on, a petition asking a permit for such purpose, setting forth the name of the applicant, the place where it is desired to carry on such business, and the kind of liquor to be manufactured. Such petition shall have appended thereto a certificate signed by at least twelve citizens of the township or city where such business is sought to be established, certifying that such applicant is a person of good moral character, temperate in his habits, and a proper person to manufacture and sell intoxicating liquors. Such applicant shall file with said petition a bond to the State of Kansas in the sum of ten thousand dollars, conditioned that, for any violation of the provisions of this act, said bond shall be forfeited. Such bond shall be signed by said applicant or applicants as principal or principals, and by at least three sureties, who shall justify under oath in the sum of seven thousand dollars each, and who shall be of the number signing said petition. The probate judge shall consider such petition and bond, and if satisfied that such petition is true, and that the bond is sufficient, may in his discretion grant a permit to manufacture intoxicating liquors for medical, scientific, and mechanical purposes. . . . Such manufacturer shall sell the liquor so manufactured only for medical, scientific, and mechanical purposes, and only in original packages. He shall not sell said liquors for medical purposes except to druggists who at the time of such sale shall be duly authorized to sell intoxicating liquors as provided in this act; and he shall sell such liquors to no other person or persons, associations or corporations, except for scientific and mechanical purposes, and then only in quantities not less than five gallons.

Sec. 6. All sales made by such manufacturer shall be upon a written or printed application, setting forth the name, occupation, and residence of the applicant, the quantity and kind of liquors wanted, and for what purpose; and all such applications shall be verified by the affidavit of the applicant, made before some officers in the county having authority to administer oaths, that the statements in said application are true. Such manufacturer shall file all such applications in the probate court of the county wherein the applicant resides, within thirty days after receiving the same, where they shall be kept on file for two years from the date of such filing. Any rectification or adulteration of intoxicating liquors shall be considered manufacturing under this act. . . .

Sec. 13. All places where intoxicating liquors are manufactured, sold, bartered, or given away in violation of any of the provisions of this act, or where intoxicating liquors are kept for sale, barter, or use, in violation of this act, are hereby declared to be common nuisances. . . .

Sec. 14. Every person who shall, by the sale, barter, or gift of intoxicating liquors, cause the intoxication of any other person or persons, shall be liable for, and compelled to pay, a reasonable compensation to any person who may take charge of, and provide for, such intoxicated person, and five dollars per day in addition thereto for every day such intoxicated person shall be kept in consequence of such intoxication, to be recovered by civil action in any court having jurisdiction.

Sec. 15. Every wife, child, parent, guardian, or employer, or other person, who shall be injured in person or property, or means of support, by any intoxicated person, or in consequence of intoxication, habitual or otherwise, of any person, such wife, child, parent, or guardian shall have a right of action, in his or her own name, against any person who shall, by selling, bartering, or giving intoxicating liquors, have caused the intoxication of such person, for all damages actually sustained, as well as for exemplary damages; and a married woman shall have the right to bring suits, prosecute and control the same, and the amount recovered, the same as if unmarried; and all damages recovered by a minor under this act shall be paid either to such minor, or to his or her parents, guardian, or next friend, as the court shall direct; and all suits for damages under this act shall be by civil action in any of the courts of this State having jurisdiction thereof.

Sec. 17. The giving away of intoxicating liquor, or any shifts or device to evade the provisions of this act, shall be deemed an unlawful selling within the provisions of this act.

Manufacturing permits continue in force for five years. Violations of the act are punished by fine or imprisonment.

An act passed at this session provides that "the County Superintendent of Public Instruction in counties containing one thousand and not more than twelve hundred persons between the ages of five and twenty-one years shall receive four hundred dollars per annum; in counties having a school population of from twelve hundred to fifteen hundred, he shall receive five hundred dollars per annum; and in counties containing more than fifteen hundred persons of school age, he shall receive five hundred dollars, and twenty dollars for each additional one hundred such persons per annum. In counties having a school population of less than one thousand, the County Superintendent shall receive three dollars for each day actually and necessarily employed in the discharge of the duties of his office, for a number of days not to exceed one hundred in one year, which compensation shall be payable quarterly, on the order of the Board of County Commissioners: *Provided,* That no county superintendent shall receive to exceed one thousand dollars per annum; and that, in determining the salaries of county superintendents, the school population of cities of the first and second class shall not be included." All superintendents receiving over six hundred dollars per annum are required to devote their entire time to the duties of their offices.

The State was reapportioned for Senators and Representatives, but no law was passed providing for a congressional reapportionment. The representation of the State will be increased from three to six under any act likely to pass Congress. According to the census of 1880, but six States raised more corn than Kansas; they were Illinois, Indiana, Iowa, Missouri, Ohio, and Minnesota. Only nine States—to wit, California, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Pennsylvania—were ahead of Kansas on wheat.

The production of corn, wheat, and oats, for the year 1880, by counties, was as follows:

COUNTIES.	Indian corn. Bushels.	Oats. Bushels.	Wheat. Bushels.
Allen.....	1,418,563	61,428	59,465
Anderson.....	1,201,823	79,651	66,088
Atchison.....	2,129,689	182,372	862,078
Barbour.....	6,996	2,784	2,569
Barton.....	593,895	56,194	286,521
Bourbon.....	2,307,528	112,070	95,829
Brown.....	3,912,864	268,406	424,884
Butler.....	2,099,604	146,879	368,258
Chaso.....	693,622	42,422	92,133
Chautauqua.....	1,048,485	20,912	81,893
Cherokee.....	2,385,175	242,751	216,760
Clay.....	1,876,262	141,317	325,184
Cloud.....	2,064,376	125,819	246,031
Coffey.....	1,513,209	85,928	82,823
Comanche.....	100	.....	.....
Cowley.....	2,274,555	136,471	624,585
Crawford.....	2,797,840	258,056	198,493
Davis.....	481,218	28,743	132,882
Decatur.....	54,017	1,242	9,997
Dickinson.....	1,528,252	95,417	698,426
Doniphan.....	2,475,986	209,185	518,140
Douglas.....	2,398,875	226,583	403,133
Edwards.....	9,050	5,728	27,468
Elk.....	1,009,521	26,524	83,345
Ellis.....	106,665	9,009	116,062
Ellsworth.....	625,143	39,653	222,803
Footo.....	.....	.....	185
Ford.....	8,895	2,333	4,493
Franklin.....	2,202,773	138,896	104,575
Gove.....	2,885	.....	259
Graham.....	42,260	1,575	8,194
Greenwood.....	1,805,067	45,340	103,005
Harper.....	159,570	11,480	25,288
Harvey.....	1,122,916	176,517	313,957
Hodgeman.....	8,750	1,814	6,015
Jackson.....	1,715,828	118,150	177,981
Jefferson.....	2,436,016	220,354	516,258
Jewell.....	2,386,624	143,067	347,684
Johnson.....	3,209,213	270,357	390,714
Kingman.....	102,842	6,463	27,836
Labette.....	2,460,220	188,434	340,411
Lane.....	6,151	820	2,968
Leavenworth.....	1,785,976	188,816	413,211
Lincoln.....	898,864	34,539	263,800
Linn.....	2,736,540	116,124	104,312
Lyon.....	1,591,370	98,945	92,551
McPherson.....	1,670,101	297,696	332,037
Marion.....	992,748	96,698	377,917
Marshall.....	2,112,421	297,455	346,561
Miami.....	3,592,607	238,566	181,560
Mitchell.....	1,255,186	61,676	268,726
Montgomery.....	2,043,883	120,733	250,520
Morris.....	813,151	73,267	157,108
Nemaha.....	2,109,444	175,686	62,735
Neosho.....	1,920,150	117,988	149,450
Ness.....	8,092	150	3,194
Norton.....	256,289	13,679	64,449
Osage.....	3,101,517	123,154	170,354
Osborne.....	638,597	38,266	260,068
Ottawa.....	971,805	93,114	360,785
Pawnee.....	66,865	8,106	51,051
Phillips.....	710,396	39,416	238,447
Pottawatomie.....	2,137,162	218,405	195,185
Pratt.....	72,064	9,933	20,456
Rawlins.....	3,760	900	252
Reno.....	724,408	102,715	204,010
Republic.....	2,012,116	189,628	279,655
Rice.....	824,780	87,185	147,586
Riley.....	1,204,122	85,959	117,312
Rooks.....	350,566	16,515	98,121
Rush.....	82,342	6,589	58,810
Russell.....	361,752	26,113	185,235
Saline.....	1,321,171	115,594	610,763
Sedgwick.....	2,347,080	301,192	574,741
Shawnee.....	2,339,645	123,726	183,564
Sheridan.....	15,300	898	1,986
Smith.....	1,381,448	82,797	263,980
Stafford.....	159,724	10,762	37,498
Sumner.....	1,902,794	143,324	410,730
Thomas.....	4,175	380	500
Trego.....	15,005	999	11,577
Wabaunsee.....	1,008,990	48,484	217,911
Wallace.....	2,129	.....	100
Washington.....	2,279,596	270,084	284,553
Wilson.....	1,848,119	93,611	212,327
Woodson.....	809,399	61,748	89,136
Wyandotte.....	620,640	57,193	178,599
Total.....	105,729,325	8,180,335	17,324,141

The report of the State Board of Agriculture for 1881 shows that the total number of horses in the State for the year was 383,815; previous year, 367,589; increase, 16,226. Mules and asses, 58,780; previous year, 58,303; increase, 477. Milch-cows for the year, 406,706; previous year, 366,640; increase, 40,066. Other cattle for the year, 839,751; previous year, 748,672; increase, 81,079. Sheep, 806,323; previous year, 426,492; increase, 379,831.

Cheese made in factories for the year, 518,549 pounds; previous year, 573,346; a decrease of 54,797 pounds. Butter made in factories, 220,923 pounds; previous year, 133,101 pounds; an increase of 154,199 pounds. Cheese made in families for the year, 187,933 pounds; previous year, 133,101 pounds; an increase of 54,832 pounds. Butter made in families, 20,350,853 pounds; previous year, 16,611,315; increase, 3,739,538 pounds.

The total value of the products of the twenty-two field-crops raised in 1881 is \$81,910,439, or more than 30 per cent greater than in any previous year in the history of the State. The two that contribute the largest share of this total are wheat and corn; the former making \$21,705,205.80, and the latter \$44,859,903.29.

In production, average yields were not so large as in 1880, but the increased price of farm products makes the product of this year much more valuable.

The yield of wheat (winter and spring) was 20,479,689 bushels; corn, 80,760,542 bushels; of oats, 9,900,768 bushels were raised, and are valued at \$3,855,749.77; Irish potatoes, 1,854,140 bushels, with a value of \$2,710,377.50. The hay-crop, consisting of millet, Hungarian, timothy, clover, and prairie, aggregated 2,092,007 tons, with a value of \$11,894,594.98.

Of the minor crops, the following products and values are given: rye, 986,508 bushels—\$735,553.27; barley, 110,125 bushels—\$87,528.80; buckwheat, 58,621 bushels—\$43,965.75; sweet-potatoes, 201,062 bushels—\$292,842.55; sorghum, 3,899,440 gallons—\$1,745,871.45; castor-beans, 392,549 bushels—\$497,378.13; cotton, 388,070 pounds—\$38,805.30; flax-seed, 1,184,445 bushels—\$1,357,943.61; hemp, 629,160 pounds—\$44,041.20; tobacco, 797,829 pounds—\$79,782; broom-corn, 32,961,150 pounds—\$1,480,115.75; rice-corn, 520,534 bushels—\$314,787.12; and pearl-millet, 30,176 tons—\$165,863.

The value of property subject to taxation is \$284,688,955.05, being \$307.51 per capita.

The increase in the value of live-stock over last year is \$6,952,504.50; produce of live-stock during the year, \$21,682,888.25; value of honey and wax produced, \$22,210.25; products of orchards and vineyards, \$1,882,364.68.

There were eight counties that this year harvested over 500,000 bushels of wheat, viz.: McPherson, 1,337,174; Saline, 1,160,705; Sedgwick, 1,085,117; Dickinson, 926,226; Sumner, 862,728; Cowley, 702,144; Barton, 670,720;

and Harvey, 660,935. Seven counties raised more than 400,000 bushels, viz.: Marion, 495,729; Ottawa, 481,280; Reno, 470,160; Rice, 428,520; Cherokee, 419,500; Labette, 405,080; and Lincoln, 401,555.

Forty-two counties raised over 1,000,000 bushels of corn each, viz.: Sedgwick, 3,206,700; Sumner, 3,187,380; Butler, 2,988,420; Cowley, 2,457,575; Jewell, 2,414,680; Brown, 2,385,050; Osage, 1,965,572; Nemaha, 1,939,756; Miami, 1,923,138; Lyon, 1,917,702; Washington, 1,835,640; Republic, 1,806,340; Labette, 1,693,098; Marshall, 1,692,140; Franklin, 1,621,906; Wilson, 1,582,175; Doniphan, 1,510,560; Linn, 1,498,554; Bourbon, 1,498,020; McPherson, 1,492,942; Montgomery, 1,481,384; Smith, 1,393,616; Coffey, 1,338,736; Shawnee, 1,292,180; Johnson, 1,257,718; Harvey, 1,158,027; Dickinson, 1,157,536; Pottawatomic, 1,143,632; Greenwood, 1,129,625; Anderson, 1,115,350; Leavenworth, 1,109,198; Crawford, 1,094,475; Cherokee, 1,086,528; Cloud, 1,077,835; Douglas, 1,075,225; Atchison, 1,075,220; Mitchell, 1,064,258; Clay, 1,063,140; Neosho, 1,050,624; Marion, 1,027,532; Rice, 1,015,760; and Reno, 1,006,450.

While the long-continued dry weather and the armies of chinch-bugs did immense damage to the crops of the State during 1881, yet the value of \$122,450,406.95 was divided among the farmers.

The permanent school fund on hand or invested, drawing interest, amounted in 1880 to \$2,297,590. The approximate value of the total school fund of the State, reckoning lands at the average price they have so far sold for, is \$11,815,519.20.

The following school statistics are for the year 1881: Number of organized school districts in the State, 6,322, an increase over 1880 of 188; total male children between five and twenty-one years of age, 177,476; total female children of the same ages, 169,316; whole number of children of school age, 346,792, an increase over 1880 of 6,145; total school enrollment, 249,034; total school attendance, 139,776. Total number of teachers in the State, 8,208; total number of male teachers, 3,544; total number of female teachers, 4,664; total average monthly salary paid male teachers in the State, \$30.21; do., female teachers, \$23.77. Average number of weeks of school within the year per district, 23.7; total number of certificates issued within the year, 7,435.

The State and municipal indebtedness in 1880 was as follows:

State bonds outstanding.....	\$1,181,975
County bonds outstanding.....	7,389,666
County warrants.....	340,228
Township bonds.....	2,223,579
Township warrants.....	36,476
City bonds.....	1,921,478
City warrants.....	95,089
School-district bonds.....	2,012,707
School orders.....	29,151

Total State and municipal debt..... \$15,180,579

The State has 80 organized counties, 67 of which have railroads. Total miles of main-

track of railroad in Kansas, 3,478.36; average assessed value per mile, \$5,149.82; total value of main-track, \$17,912,943. Total miles of side-track, 274.75; average assessed value per mile of side-track, \$2,000; total value of side-track, \$551,750. Assessed value per mile of rolling-stock, \$892.10; total value of rolling-stock, \$3,103,045.89. Assessed value per mile of tools and materials, \$138.04; total value of tools and materials, etc., \$480,160.70. Assessed value of buildings, \$624,100. Total valuation of all property, \$22,671,999.59. Average valuation per mile upon all said property inclusive, \$6,578.01. There were built in the State, between March 1, 1880, and March 1, 1881, 374.15 miles. The valuation of railroad property is a little over one eighth of the total taxable valuation of the State.

In February the Supreme Court rendered a decision holding that the prohibitory amendment had been legally adopted. In June the same court rendered an important decision in several cases brought to test the force and scope of the liquor law above set forth. The following are the points of the decision:

1. The Legislature has the power, under the Constitution, to east upon the person holding the office of judge of the probate court the duty of issuing permits or licenses for the sale of liquor, as provided in chapter 123 of the laws of 1881.

2. Said chapter 123, so far as it purports to regulate the sale of liquor for medical and other purposes, is not in conflict with the Constitution, because it restricts the right to sell to druggists.

3. While, in order to determine the true scope and meaning of a statute, its letter is to be first examined and considered, yet courts should also have regard to the evil sought to be remedied, for that which is within the letter, though not within the spirit of the statute, is not, in legal contemplation, a part of it.

4. The evil sought to be remedied by said chapter 123 is the use of intoxicating liquors as a beverage. This purpose interprets the law.

5. Whatever is generally and popularly known as intoxicating liquor, such as whisky, brandy, gin, etc., is within the prohibitions and regulations of the statute, and may be so declared as matter of law by the courts.

6. Whatever, on the other hand, is generally and popularly known as medicine, an article for the toilet, or for culinary purposes, recognized, and the formula for its preparation prescribed, in the United States Dispensatory, or like standard authority, and not among the liquors ordinarily used as intoxicating beverages—such as tincture of gentian, paregoric, bayrum, cologne, essence of lemon, etc.—is without the statute, and may be so declared as matter of law by the courts, and this notwithstanding such articles contain alcohol, and in fact and as charged may produce intoxication.

7. As to articles intermediate these two classes, articles not known to the United States Dispensatory or other similar standard authority, compounds of intoxicating liquors with other ingredients, whether put up upon a single prescription and for a single case, or compounded upon a given formula and sold under a specific name as bitters, cordials, tonics, etc., whether they are within or without the statute, is a question of fact for a jury and not of law for the court. The rule or test is this: If the compound or preparation be such that the distinctive character and effect of intoxicating liquor is gone, that its use as an intoxicating beverage is practically impossible by reason of the other ingredients, then it is outside the statute. But if, on the other hand, the intoxicating liquor remain

as a distinctive force in the compound, and such compound is reasonably liable to be used as an intoxicating beverage, then it is within the statute.

In 1879 the House of Representatives consisted of 129 members—four more than are permitted by the Constitution of the State—four of which members, to wit, the representatives from Rooks, Rush, Harper, and Barbour Counties, were not, under the Constitution and laws, entitled to seats in the House of Representatives as members. An act was passed that year by the Legislature, but only by the assistance of the votes of those four members, and, except for their votes, this act would not have received a constitutional majority of the votes of the House; and, not counting their votes, the act did not receive a constitutional majority. The Supreme Court now holds that

the votes of those four members should not be counted, and therefore that the act must be considered as not having passed the House of Representatives, and as void.

The total product of coal, according to the census of 1880, was 771,142 tons. The following statement gives the total amount of taxes paid in the State on the assessment of 1880 for all purposes:

State taxes.....	\$336,515
County taxes.....	2,058,782
City taxes.....	361,187
Township taxes.....	564,829
School-district taxes.....	1,819,931
Total taxes paid.....	\$5,691,244

The following table shows the population of the State by counties, as finally returned by the census of 1880, and also as compared with the census returns of 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Allen.....	11,303	7,022	Grant.....	9	.....	Pawnee.....	5,896	179
Anderson.....	9,057	5,220	Greeley.....	3	.....	Phillips.....	12,014	.....
Arapahoe.....	3	.....	Greenwood.....	10,543	3,434	Pottawatomie...	16,350	7,848
Atchison.....	26,663	15,507	Hamilton.....	168	.....	Pratt.....	1,890	.....
Barbour.....	2,661	.....	Harper.....	4,133	.....	Rawlins.....	1,623	.....
Barton.....	10,318	2	Harvey.....	11,451	.....	Reno.....	12,826	.....
Bourbon.....	19,591	15,076	Hodgeman.....	1,704	.....	Republic.....	14,913	1,231
Brown.....	12,817	6,823	Jackson.....	10,718	6,053	Rice.....	9,292	5
Buffalo.....	191	.....	Jefferson.....	15,563	12,526	Riley.....	10,430	5,105
Butler.....	18,536	3,035	Jewell.....	17,475	207	Rooks.....	8,112	.....
Chase.....	6,081	1,975	Johnson.....	16,353	13,634	Rush.....	5,490	.....
Chautauqua.....	11,072	.....	Kansas.....	9	.....	Russell.....	7,351	156
Cherokee.....	21,905	11,038	Kearney.....	159	.....	Saline.....	13,808	4,246
Cheyenne.....	37	.....	Kingman.....	3,713	.....	Scott.....	43	.....
Clark.....	163	.....	Labette.....	22,735	9,973	Sedgwick.....	18,753	1,095
Clay.....	12,320	2,942	Lane.....	601	.....	Sequoyah.....	563	.....
Cloud.....	15,343	2,323	Leavenworth...	32,355	32,444	Seward.....	5	.....
Coffey.....	11,433	6,201	Lincoln.....	8,552	516	Shawnee.....	29,003	13,121
Comanche.....	372	.....	Linn.....	15,298	12,174	Sheridan.....	1,567	.....
Cowley.....	21,538	1,175	Lyon.....	17,326	8,014	Sherman.....	13	.....
Crawford.....	16,351	8,160	McPherson.....	17,143	738	Smith.....	13,883	66
Davis.....	6,994	5,526	Marion.....	12,453	768	Stafford.....	4,755	.....
Decatur.....	4,180	.....	Marshall.....	16,136	6,901	Stanton.....	5	.....
Dickinson.....	15,251	3,043	Meade.....	296	.....	Stevens.....	12	.....
Doniphan.....	14,267	13,969	Miami.....	17,302	11,725	Sumner.....	20,812	22
Douglas.....	21,700	20,592	Mitchell.....	14,911	435	Thomas.....	161	.....
Edwards.....	2,409	.....	Montgomery.....	18,213	7,564	Trego.....	2,535	166
Elk.....	10,623	.....	Morris.....	9,265	2,225	Wabauusee.....	8,756	3,362
Ellis.....	6,179	1,336	Nemaha.....	12,462	7,339	Wallace.....	686	538
Ellsworth.....	8,494	1,185	Neosho.....	15,121	10,206	Washington.....	14,910	4,031
Footo.....	411	.....	Ness.....	3,723	2	Wichita.....	14	.....
Ford.....	3,122	427	Norton.....	6,993	.....	Wilson.....	13,775	6,694
Franklin.....	16,797	10,335	Osage.....	19,642	7,648	Woodson.....	6,535	3,327
Gove.....	1,196	.....	Osborne.....	12,517	33	Wyandotte.....	19,143	10,015
Graham.....	4,253	.....	Ottawa.....	10,307	2,127			
State.....							996,096	364,399

KENTUCKY. The presidential vote in 1880 was as follows: for the Hancock electors, 149,068; Garfield electors, 106,306; Weaver, 11,499; Dow, 258. At the August election of 1881 there was no organized opposition to the re-election of James W. Tate, Democrat, for State Treasurer. He received 115,520 votes, against 725 for all others. The Legislature consists of 29 Democrats and 9 Republicans in the Senate, and in the House of 73 Democrats, 21 Republicans, 4 Greenbackers, and 2 Independents. In the third appellate district, consisting of the counties of Adair, Allen, Barren, Breckinridge, Bullitt, Cumberland, Green, Hardin, Hart, Jefferson, Larue, Marion, Meade, Metcalfe, Monroe, Nelson, Oldham, Shelby, Spencer, Taylor, and Washington, Joseph H.

Lewis was elected judge of the Court of Appeals, to fill a vacancy caused by the death of Judge Martin H. Cofer, by a vote of 22,051 against 11,207 for T. T. Alexander. At the same election a vote was taken on the question of calling a constitutional convention. The number of votes cast in the affirmative was not a majority of the citizens of the State entitled to vote for representatives, and the proposition was defeated. The number of legal voters is 367,163, of whom 312,521 are white and 54,642 colored. There is a general feeling in the State that a revision of the Constitution is necessary, but the above and other constitutional provisions render the calling of a convention well-nigh impossible. A proposition to call a convention was submitted to the peo-

ple in 1879, and failed for a like reason, though it received 124,191 votes.

Besides the fact that all voters who absent themselves from the polls, or fail to record their votes either way, are counted against the convention, the present Constitution throws other impediments in the way of changes of the organic law. From the time the first step is taken, six or seven years are required to accomplish a change. A law is passed to authorize the taking of a vote, say, in 1879, resulting in a majority at the polls in 1881; then the Legislature is directed to order another election in 1883, which, if successful, makes it mandatory to provide for the election of delegates to a convention in 1884. The convention must meet three months after the election of its members.

In view of these difficulties a so-called "sovereignty" convention, or convention called irrespective of the Constitution, and representing the people in their primary or sovereign capacity, has found advocates. At a public meeting in Louisville, on the 14th of October, a State Prohibition party was organized, and the following platform adopted:

Whereas, The evil of intemperance is the acknowledged prevailing vice of this country, and experience teaching us the important lesson that a country conscious of its vices, clinging to its vices, refusing to give up its vices, must perish by its vices, and believing that there are but two remedies for the evil, one by a political power through a political party pledged to this end, and the other by the judgments of Almighty God; and,

Whereas, Old political parties have for years ignored the temperance question—ay, more, have clasped hands over the licensed liquor-traffic; therefore, be it

Resolved, 1. We declare in favor of the final prohibition of the manufacture and sale of intoxicating liquors, both in State and nation.

2. It is neither right nor politic for the State to furnish legal protection to any traffic or system which tends to waste the resources, to corrupt social habits, and to destroy the health and lives of the people. That the importation, manufacture, and sale of intoxicating beverages are proved to be inimical to the true interest of individual, home, community, and State, and destructive to the welfare of society, and ought therefore to be classed among the crimes to be prohibited.

3. That we arraign the Republican party, which has been in continuous power for twenty years, as being false to duty, as false to the loudly proclaimed principles of equal justice to all and special favors to none, and protection to the weak and defenseless, and for being so insensible to the misery which the trade in liquor has constantly inflicted upon the industry, trade, commerce, and social happiness of the people.

4. We arraign the Democratic party as unfaithful and unworthy of reliance on this question, for, although not clothed in power, but occupying the relation of an opposition party during twenty years past, strong in numbers and organization, it has allied itself with liquor-traffickers.

5. That we believe the main issues which brought these parties into power are dead, and hereby renounce all connection with old parties, full of dead issues, and declare for a new one, full of living virtues.

6. We denounce the present free-school system of Kentucky as not sufficient to meet the ends of liberal education, and demand such legislation as is necessary for the proper education of our children.

7. Since our State has empowered women with the

right of suffrage in the election of school trustees, we favor the extension of said rights to them in all matters relative to the liquor-traffic.

We cordially invite all voters, without regard to former party affiliation, to unite with us in the use of the ballot for the abolition of the drinking system under the authority of our national and State government, and the enforcement of the above-named measures, believing their adoption essential to our happiness and national prosperity.

The following resolution was also adopted:

Resolved, That we recommend that county and State tickets be placed before the people at every regular election, and it shall be the duty of every friend of the temperance cause, opposed to the drink-traffic, to support such ticket.

The Legislature convened on November 28th, and on December 16th adjourned to January 3, 1882, to give the members opportunity to attend the Atlanta Exposition, to which the General Assembly had been invited. No important legislation was perfected. On the 7th of December James B. Beck was re-elected United States Senator, receiving 101 votes, while John D. White, Republican, received 28 votes, and Charles W. Cook, Greenbacker, 4.

The amount of the various funds in the Treasury, October 10th, was as follows, viz.:

Revenue department.....	\$51,118 28
Sinking fund proper.....	168,954 27
School fund proper.....	23,806 86
Colored school fund.....	8,466 93
Total.....	\$247,346 34

The estimate of the late Auditor of the deficit to be met for the fiscal year following his retirement, and ending October 10, 1880, was \$679,912.35. The last General Assembly made temporary provision to meet his deficit by authorizing a transfer of surplus and a loan from the sinking fund to revenue proper of \$235,671.72. They also authorized the Governor, Auditor, and Treasurer to borrow \$500,000 on the credit of the State if in their judgment it should be found necessary. Of this amount \$300,000 was borrowed during the year 1880, and \$100,00 in 1881, making a total of \$635,671.72.

The sinking-fund debt has all been paid, and also \$100,000 of the borrowed money; leaving \$300,000 due on borrowed money, with a balance in the Treasury to the credit of revenue proper on 10th of October of \$51,118.28; leaving a deficit of \$248,881.72.

The receipts have steadily increased during the last two fiscal years. In the year just expired October 10th they about equaled the expenditures. The Auditor's estimate for the year ending October 10, 1882, is as follows, viz.:

Expenditures for the year ending October 10, 1882.....	\$1,457,650 00
Receipts.....	\$1,306,269 63
Add balance in Treasury October 10, 1881.....	51,118 28
	1,357,387 91
Deficit for the year.....	\$100,262 09
To which add bank loan.....	800,000 00
Total deficit October 10, 1882.....	\$400,262 09

This deficit (says the Governor) may be met by either increasing the tax or issuing bonds; but I do not think either to be advisable or necessary.

Although our present State tax is much lower than that of almost any other State in the Union, yet it is amply adequate to all our wants if property is assessed at anything like its real value. The State tax amounts to but forty-five cents on the hundred dollars, of which twenty cents go to the school fund, and five cents to the sinking fund, leaving only twenty cents of what is called revenue proper for the support and expenses of the State government for all purposes whatsoever.

A revision of our revenue laws, whereby a fair, just, and uniform assessment may be had, will, at the present rate of taxation, provide ample means to meet this deficit, and keep pace with the growing wants of the State for years to come. Our system of assessments is grossly defective. It answered very well so long as our State was sparsely settled by a purely agricultural people, but it is illy adapted to a State with large cities and growing towns, and an extent and variety of trade and traffic never dreamed of when these laws were enacted. A large amount of property is never reached by the assessor; that which is listed is neither fairly nor uniformly assessed; the descriptions will rarely ever serve to identify the property, and the assessments are often ridiculously low. It is a system which has been rejected by most of our sister States.

The bonded debt remains unchanged. There are still outstanding bonds to the amount of \$180,394. Of this amount \$6,394 is past due, and for many years has ceased to draw interest. To meet this the State has in the hands of the Treasurer \$168,954.27: 406 shares of Bank of Louisville stock quoted at \$39,179; stock in turnpike-roads grossly estimated worth \$500,000; making the total estimated resources \$708,133.27.

During the last session of the General Assembly the common-school laws of the State were thoroughly revised by the joint committee on education, aided by the suggestions of the Superintendent of Public Instruction. Certain important amendments were printed, adopted, and laid before the Legislature, but, owing to the press of the legislation in the House on pending matters at the close of the session, no final action was taken.

The Agricultural and Mechanical College of Kentucky closed the session of 1879-'80, the last preceding the constitution of its present board, with one hundred and thirty-seven students. The first year under the new organization closed with two hundred and thirty-four. Its matriculation list on November 9th was two hundred and forty-eight.

The new board of trustees, in reorganizing the college, constituted the Normal School as required by act of the Legislature, and, in order to provide instruction in Latin for those teachers who wished to add some classical learning to their other acquirements, added a classical professorship. They also established a professorship of Practical Mechanics, and a professorship of Agriculture, Horticulture, and Economic Botany. The institution, thus enlarged in the direction required by the Legislature, and in the two essential elements of agriculture and practical mechanics, is fitted to accomplish in the future a work which, during its former connection,

it was never prepared to do. It now has the following professorships established to carry out the idea of scientific, technical, and industrial education, viz.: professorship of Elementary and Practical Chemistry, professorship of Mathematics, professorship of Civil Engineering, professorship of Botany, Comparative Anatomy, Zoölogy, and Geology; professorship of Agriculture, Horticulture, and Economic Botany; professorship of Practical Mechanics and Drawing, and professorship of Agricultural Chemistry. In addition to these departments, there are other subjects closely related thereto, for which no professorships have yet been created, but which are taught by the professors who have these several scientific departments in charge. These, with professorships of Mental and Moral Philosophy, Civil History, Modern Languages, English Language and Literature, Ancient Languages, and the two adjunct departments of Theory and Practice of Teaching, and a business course, comprising book-keeping and commercial law, make up the several courses of study in the State College.

The Normal School has achieved a fair measure of success during its existence. A large number of pupils from various parts of the State have availed themselves of the advantages afforded by normal instruction proper, and by free access to the other departments of the college. The college-grounds, given by the city of Lexington, contain fifty-two acres, valued at \$25,000, upon which new buildings are now in process of erection at a cost of \$85,000, toward which the city of Lexington and county of Fayette contributed \$54,000.

The important work of making a geological and topographical survey of the State has made favorable progress. Several counties hitherto unexplored have been accurately mapped, and positions and value of the mineral deposits determined. Important discoveries of the existence of a coking-coal of superior quality, now greatly in demand for the manufacture of iron, have been made, and the position of coal traced over a wide area. The publication of these results has greatly stimulated the demand for railways in portions of the State destitute of such means of transportation, and convinced capitalists that it will be a profitable investment to build roads penetrating those regions. Although the Bureau of Immigration has been organized less than eighteen months, more has been accomplished in making known abroad the vast resources of the State, and the real advantages offered by it to persons seeking homes, than in the previous history of the Commonwealth. The work and publications of this bureau have been so directed as to attract the most desirable class of immigrants, and already several thriving colonies, composed of farmers and skilled artisans, have been located.

The last Legislature abolished the lessee system with respect to convicts, and left the management of the Penitentiary and convicts,

to a great extent, to the control of the Commissioners of the Sinking Fund, who are the Governor, Secretary of State, Auditor, Attorney-General, and Treasurer.

There are now inside the walls of the Penitentiary 651 men, for whom the contractors pay an annual rent of \$25,375, less expense of State guards, etc., \$17,875, leaving a net income to the State of \$7,500. It is impossible to state the exact number of employes on railroad work, as it is constantly fluctuating between two and three hundred. The amount received is \$50 per head, and the net income to the State from the same may be safely estimated at \$10,000 per annum, making total net receipts of \$17,500. Under the lessee system, the Penitentiary was a constant drain upon the Treasury of the State.

The following is a comparative statement of the assessment of railroads in Kentucky for 1878-'81, showing the increase in the number of miles, and also the valuation:

YEARS.	Number of miles.	Total valuation.
1878.....	1,367,212	\$14,608,837 35
1879.....	1,395,282	15,804,296 35
1880.....	1,518,796	24,909,070 15
1881.....	1,553,596	32,075,212 01

There are 20,944 volumes in the State Library. The following is a summary of the taxable property of the State, excepting Fayette County:

OWNERS.	Value.	Tax.
White.....	\$341,577,523	\$1,554,177 73
Colored.....	2,980,236	13,411 06
Total.....	\$344,557,759	\$1,567,588 79

Adding Fayette County, as returned in 1880, the total valuation is \$356,475,134; tax, \$1,621,804.98.

The per capita for white common schools for the school year 1881-'82 is \$1.40; and the per capita for the colored common schools, 50 cents.

There are 1,063 idiots maintained by the State, exclusive of those in the Feeble-minded Institute. The counties having twenty and over are Bath, 22; Casey, 25; Clay, 24; Grayson, 20; Harlan, 20; Jackson, 21; Jefferson, 30; Knox, 33; Letcher, 20; Ohio, 22; Pulaski, 29; Wayne, 30; Whitley, 31. The following counties have none: Ballard, Carroll, Crittenden, Fayette, Fulton, McLean, and Union; while Boyd, Lárue, Menifee, and Woodford have only one each. The State pays \$75 for the support of each of these idiots, or a total for the past year of \$77,805.27.

The internal revenue derived by the United States in six districts of the State is shown in the following table:

Second district.....	\$672,159 61
Fifth district.....	3,409,672 12
Sixth district.....	3,185,216 03
Seventh district.....	1,009,843 31
Eighth district.....	216,668 51
Ninth district.....	145,579 63
Total.....	\$8,719,144 21

The work of improving the navigation of the Kentucky and other rivers has been going on. Congress has recently appropriated \$325,000 for the Kentucky River; \$55,000 for the Big Sandy; \$37,000 for that portion of the Cumberland River flowing through Kentucky; \$5,000 for the Tradewater, and a small sum for the Licking.

The cereal productions of the State, according to the census, have been as follows:

YEARS.	INDIAN CORN.	Bushels.
1870.....		50,091,006
1880.....		73,977,829
Increase.....		23,886,823
WHEAT.		
1870.....		5,728,704
1880.....		11,355,840
Increase.....		5,626,636
OATS.		
1870.....		6,620,103
1880.....		4,582,968
Decrease.....		2,037,135
BARLEY.		
1870.....		238,486
1880.....		457,031
Increase.....		248,546
RYE.		
1870.....		1,108,933
1880.....		676,245
Decrease.....		432,688
BUCKWHEAT.		
1870.....		3,443
1880.....		14,940
Increase.....		11,497

Kentucky is the first State in the yield of tobacco, producing in 1880 171,120,784 pounds, or 36 per cent of the entire product of the country.

It is stated that there are at present 58,000,000 gallons of whisky in store in the State. The yield of coal, according to the census of 1880, was 946,283 tons. The population of the principal cities and towns was as follows:

CITIES AND TOWNS.	Population.	CITIES AND TOWNS.	Population.
Louisville.....	123,645	Lebanon.....	2,054
Covington.....	29,720	Mayfield.....	1,833
Newport.....	20,433	Cynthiana.....	1,566
Lexington.....	16,656	Madisonville.....	1,544
Paducah.....	8,376	West Covington..	1,526
Frankfort.....	6,958	Glasgow.....	1,512
Henderson.....	5,365	Augusta.....	1,280
Hopkinsville.....	4,229	Lancaster.....	1,234
Ashland.....	3,280	Cumberland.....	1,147
Danville.....	3,074	Columbus.....	1,139
Richmond.....	2,909	Vanceburg.....	1,095
Shelbyville.....	2,409	Cloverport.....	1,056
Winchester.....	2,275	Uniontown.....	1,015
Russellville.....	2,058		

The population of the State is 1,648,690, but as distributed among the several counties as shown by the returns of the census of 1880, and as compared with the returns of 1870, it is as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adair.....	13,078	11,065	Grant.....	13,083	9,529	Meade.....	10,323	9,485
Allen.....	12,089	10,296	Graves.....	24,138	19,398	Menifee.....	3,755	1,986
Anderson.....	9,361	5,449	Grayson.....	15,784	11,550	Mercer.....	14,142	13,144
Ballard.....	14,378	12,576	Green.....	11,871	9,379	Metcalfe.....	9,428	7,934
Barren.....	22,321	17,780	Greenup.....	13,371	11,463	Monroe.....	10,741	9,231
Bath.....	11,982	10,145	Hancock.....	8,563	6,591	Montgomery....	10,566	7,557
Bell.....	6,055	3,731	Hardin.....	22,564	15,705	Morgan.....	8,455	5,975
Boone.....	11,996	10,696	Harlan.....	5,278	4,415	Muhlenburg....	15,098	12,638
Bourbon.....	15,956	14,863	Harrison.....	16,504	12,993	Nelson.....	16,609	14,804
Boyd.....	12,165	8,573	Hart.....	17,133	13,687	Nicholas.....	11,869	9,129
Boyle.....	11,930	9,515	Henderson.....	24,515	18,457	Ohio.....	19,669	15,561
Bracken.....	13,509	11,409	Henry.....	14,492	11,066	Oldham.....	7,667	9,027
Breathitt.....	7,742	5,672	Hickman.....	10,651	8,453	Owen.....	17,401	14,309
Breckinridge.....	17,486	13,440	Hopkins.....	19,122	13,827	Owsley.....	4,942	3,889
Bullitt.....	8,521	7,781	Jackson.....	6,678	4,547	Pendleton.....	16,702	14,030
Butler.....	12,181	9,404	Jefferson.....	146,010	118,953	Perry.....	5,607	4,274
Caldwell.....	11,282	10,826	Jessamine.....	10,864	8,638	Pike.....	13,001	9,562
Calloway.....	13,295	9,410	Johnson.....	9,155	7,494	Powell.....	3,639	2,599
Campbell.....	37,440	27,406	Kenton.....	43,983	36,096	Pulaski.....	21,318	17,670
Carroll.....	8,953	6,189	Knox.....	10,587	8,294	Robertson.....	5,814	5,399
Carter.....	12,345	7,509	La Rue.....	9,793	8,235	Rockcastle.....	9,670	7,145
Casey.....	10,933	8,884	Laurel.....	9,131	6,016	Rowan.....	4,420	2,991
Christian.....	31,682	23,227	Lawrence.....	13,262	8,497	Russell.....	7,591	5,809
Clark.....	12,115	10,882	Lee.....	4,254	3,055	Scott.....	14,965	11,607
Clay.....	10,222	8,297	Leslie.....	3,740	.....	Shelby.....	16,813	15,733
Clinton.....	7,212	6,497	Letcher.....	6,601	4,608	Simpson.....	10,641	9,573
Crittenden.....	11,688	9,381	Lewis.....	13,154	9,115	Spencer.....	7,040	5,956
Cumberland.....	8,894	7,690	Lincoln.....	15,080	10,947	Taylor.....	9,259	8,226
Davies.....	27,730	20,714	Livingston.....	9,165	5,260	Todd.....	15,994	12,612
Edmonson.....	7,222	4,459	Logan.....	24,358	20,429	Trigg.....	14,489	13,686
Elliot.....	6,567	4,433	Lyon.....	6,768	6,233	Trimble.....	7,171	5,577
Estill.....	9,860	9,193	McCracken.....	16,262	13,983	Union.....	17,509	13,640
Fayette.....	29,023	26,656	McLean.....	9,293	7,614	Warren.....	27,531	21,742
Fleming.....	15,221	13,398	Madison.....	22,052	19,543	Washington....	14,419	12,464
Floyd.....	10,176	7,877	Magoffin.....	6,944	4,684	Wayne.....	12,512	10,602
Franklin.....	18,699	15,300	Marion.....	14,693	12,533	Webster.....	14,246	10,937
Fulton.....	7,977	6,161	Marshall.....	9,647	9,455	Whitley.....	12,000	8,278
Gallatin.....	4,832	5,074	Martin.....	3,057	.....	Wolfe.....	5,638	3,603
Garrard.....	11,704	10,376	Mason.....	20,469	18,126	Woodford.....	11,800	8,240
State.....							1,648,690	1,321,011

L

LAND TENURE IN EUROPE. The land question is one of the most important of those which have occupied the attention of civilized nations during the present century. It grows in interest, and must continue so to do until there be a more general agreement as to the principles on which land ought to be held, and a more hearty recognition of the natural rights of all members of a nation or country freely to acquire possession and dispose of the land, which furnishes mankind with means of supporting life. In these United States the tenure of land is settled upon the broadest basis. There is nothing to prevent any man from purchasing land to any extent, or anywhere. He can sell as freely as he can buy, and there are no burdensome restrictions upon his course, such as exist in the older settled countries of Europe. He can also direct by will, subject, of course, to the laws of the country, the disposition of his real estate among his children (if he have any), or among any parties he may choose. In case he neglect to do this, the law steps in and divides his property among his natural heirs, i. e., his children or nearest relatives. But it is not so in Europe. The long prevalence of feudal rights and privileges, and the heavy burdens upon the common people in consequence, rendered the land question for

centuries a very grave and perplexing one. In the course of time it was certain to produce trouble which could not easily be removed, and to cause outbreaks of popular discontent and sense of ill usage. This was seen in France, where agrarian discontent led to the fierce excesses which marked the French Revolution. Feudal dues and privileges were abolished by the law of August 11, 1789, and two years later all landed property was declared free from burdens, excepting those recognized by law, and the proprietors were at full liberty to do as they liked with the land, and to sell its products wheresoever they thought fit. Royal edicts (1774-'76) had previously sanctioned the leading principles of this legislation, when Turgot was comptroller-general, and it seems probable that if they had been carried out, economic and social transformation in France would have been effected without the horrible strife and confusion which ensued. In Prussia, under the leading of that able minister, F. von Stein, the great change from the feudal organization to the modern state was accomplished in peace and quiet. No class in the country lost its self-respect, and there is no dismal record of blood and crime. According to the old law, land in Prussia might pass from hand to hand, but it must always remain

the possession of nobles, peasants, or citizens, as the case might be. When, under Frederick William III, the monarchy was greatly reduced by Napoleon's military successes, Stein undertook the important and difficult work of agrarian reform. Agriculture had of course suffered severely by the war, and Stein furnished help to the land-owners, who had been losers, by abolishing all limitation of the right of owning and alienating land. Personal serfdom was put an end to; but it was perplexing to know what to do with the peasantry, who were very poor and very wretched managers of affairs. A royal commission investigated the subject, and proposed several remedial measures. The most important of these were to allow each peasant to hold land, subject to certain dues; to refuse any further pecuniary help, and evict those unable to meet obligations; to withdraw permission to send cattle to graze in the royal forests; to commute into money payment in kind, and add it to the rent; to let one quarter of this remain as a permanent charge on the land, and the other three fourths to be redeemable in thirty years; and if any peasant was unable or unwilling to agree to this arrangement, to sell his holding and give him the proceeds as compensation. The interests of no less than 47,000 families were involved, and Minister Stein realized the gravity of the situation. He finally decided to continue the government subsidies for two years, in order to give the tenants time to repair their holdings. In 1817 Hardenberg framed a law by which, on all manorial estates, the peasant became the owner of his holding, and the lord was compensated by receiving in fee simple a third of the peasant's land, if the latter held by hereditary tenure, and one half if he did not. Subsequent land legislation in Prussia has been in the direction of helping the peasant to pay off his debt to the state, and the effect has been to create a peasant proprietary, and to help to abolish all monopolies and impediments to industry.

The fines, dues, and monopolies of the feudal system continued to exist throughout Germany and Austria long after Stein had cleared them away in Prussia. In the Austrian Empire the old organization remained in full vigor till 1848. Much dissatisfaction was felt and complaint made as to the working of this system, and the mode in which the laws were administered throughout Southern Germany, and, when the tempest of 1848 burst over Germany and Austria, it became necessary to sweep away the whole manorial organization. Under the rearrangement the peasant held his land under one of four different kinds of tenure, viz., *Erbrecht*, *Freistift*, *Leibrecht*, and *Neustift*. In the case of the first, when a tenant died his heir succeeded to the holding as a matter of right; but in the case of *Leibrecht* the lord might resume possession of the holding and add it to his domain on the death of the tenant. Those who held by *Freistift* occu-

pled their holdings at the will of the lord. The tenant might at any moment get notice to quit, but the lord was required to make suitable compensation. In the case of *Neustift* the right of occupation terminated if the manor changed hands. In practice all these holdings, no matter under which of the four tenures they were held, passed from father to son for many generations. The tenant gave the lord every year a certain proportion of his corn as well as of his non-cereal crops. As a proprietary arrangement this had become very cumbersome and inconvenient. Troubles and difficulties occurred, and there was a general desire for a simpler agrarian system. In order to satisfy this want, a law was passed offering adequate remuneration to any lords of manors who chose to renounce their feudal dues. The details are not important; but the main result has been to create a large number of peasant owners in fee simple, to simplify the title upon which land is held, and to introduce a system under which it may be bought and sold with the greatest facility in the open market.

The next great event in agrarian history of the century is the abolition of serfage in Russia. This institution, first legalized in 1592, was introduced into the Ukraine during the reign of Catharine II. More than once did it produce revolutionary movements, and there was a very dangerous outbreak in 1773. The Empress dared not offend the nobility, and the condition of the peasantry became worse and worse. Under the Emperors Paul, Alexander, and Nicholas, efforts were made toward emancipation; but it was not till the close of the Crimean War (1856) that the freeing of the serfs became a matter of prime necessity. There were three kinds of estates in Russia: those farmed by the proprietor himself, who took his dues in serf-labor; those on which the number of serfs was greater than the owner could employ, these being allowed to go and work where they pleased; and, finally, those which the proprietor did not farm at all. The serfs on these last were treated like the supernumeraries on the second class of estates, and the owner arranged that the commune should work his land. By the law of 1861 the serfs were declared personally free, and the communal land was separated from the rest of the estate. The Government gave its aid to the commune by advancing four fifths of the purchase-money, the peasants being required to pay the other fifth to the proprietors. Up to the beginning of 1875, sixty-three per cent of the dues were cleared by obligatory redemption; and up to that time 7,200,000 male serfs had made redemption contracts—that is, to pay the Government six tenths for forty-nine years over the sum advanced.

The decay of feudal society in most other European countries needs only brief statement. In Spain it was in reality destroyed by the Saracen conquest. Under Ferdinand and Isabella great land reforms were carried through,

and in 1486 it was decreed that the feudal dues should be reduced to a fixed sum, and serfage was abolished in Spain. Owing to other causes, the condition of the Spanish agriculturist became very hard to bear. Some grievances have been remedied, but chronic disturbance still exists to a greater or less degree. In the Italian Peninsula the condition of the cultivators of the soil was much the same as in the Frankish monarchy up to the twelfth century, when a great improvement began to take place. In the following century serfage was more or less done away with in the northern part of the peninsula. The city of Bologna set the example by abolishing serfage throughout its extensive territory in 1256, due care, however, being had for all proprietary rights. Treviso and Florence followed in a few years, and not long after it disappeared throughout Upper Italy. In Southern Italy matters were quite different. The peasantry of Naples and Sicily prospered under Mohammedan rule during the early portion of the middle ages, and Sicily had a much larger population in the eleventh century than it numbered in 1842. The Norman invasion produced a change, and a feudal system was imposed on Southern Italy, and pressed heavily on the people. It was only in this century, after long and bitter suffering, that they were set free by the soldiers of the Revolution.

In Scandinavian countries (see DENMARK), in Switzerland, in Holland, and in Belgium, the development of the land question has been in the same direction, and the practical result has been to make the cultivators of the soil the owners of it in most countries of Europe. In Russia, at this date, about one third of the land belongs to small communal proprietors; about one sixth is in the hands of large land-owners; and the remainder belongs to the state. In the extreme north and southeast the land (except the property of the state) is owned exclusively by peasants. In the east and beyond the Volga they own from seventy to ninety per cent, and in Central Russia from fifty to seventy per cent. In the south and west the land is about equally divided between the peasants and large proprietors; but in the Baltic and Polish provinces the latter own much the largest portion. Agriculture in Russia, according to the most reliable accounts, has made little or no progress for twenty years past. On the contrary, it seems to have declined. Everything appears to point in Russia to the concentration of wealth, and the creation of a proletariat. The communal property in land has not had the good effect, in the way and to the extent which was hoped, and land problems in Russia are forcing themselves upon the attention of all concerned in the right government and prosperity of the empire. Italy, also, as to this question, is in a sad condition. The trade in grain has come to an end, and the misery of the common people is said to be terrible, arising from destitution, and sickness in consequence. Heavy taxation, too, is contributing

to the ruin of the agriculturist, and emigration has assumed large proportions. France, likewise, shows signs of agrarian trouble. About one third of the soil is in the hands of small proprietors; the other two thirds are cultivated on a large scale. Farming in this latter does not seem to pay, for foreign competition (especially American) and high price of labor render cultivation of the land unprofitable. The condition of the small peasant proprietors is said to be very good where they cultivate the ground themselves. In Germany peasant proprietorship is not so well off as in France, seeing that nearly fifty per cent of small incomes goes in rates, taxes, and interest. It is asserted that, in some parts of Germany, from a quarter to a half of the peasant proprietors are on the verge of bankruptcy. As a general rule, it seems to be certain that in no part of Europe can competition be successfully carried on against the vast wheat-fields of the United States, and the European agriculturist is rarely flourishing, except where he can cultivate the vine, or grow hops, or tobacco, or olives, or beets (for sugar), or vegetables.

The land question in England is by no means a quiet one. Not only is the very unequal division of land complained of, but it is held to be a grievance that land is entailed or settled so as to prevent its being sold, leased, or improved, and thus subject to the free operation of the natural laws of supply and demand. Some want an independent working peasantry, with, at the same time, the landlord properly secured in his rights of property. Full freedom of contracts, liberty of use, rules of the market, and law of the exchange, are claimed for land as much as any other commodity. It is urged that land in England has high social and political bearings. The state is bound to foster and encourage the agricultural classes, and farmers, it is said, have deteriorated and need improvement in manners, intellectual force, etc. The Farmers' Alliance is working to gain possession of the land, so as to enjoy it and sell it as they choose. The aristocratic classes do not, of course, quite like this, and the question is by no means an easy one to settle. As regards Ireland, every one is aware how exceedingly difficult it is to find grounds of amicable settlement of the land question. A royal commission, it is urged, ought to be appointed, with powers to buy the estates of those willing to sell at a fixed number of years' purchase, with a view of establishing a peasant proprietary; and that all restrictions on the sale of land should be removed, and a cheap and expeditious mode of land transfer introduced. Very possibly such measures would prove beneficial. So far as anything has been done in the way of peasant proprietorship, it seems to work well and satisfactorily. It is claimed that what is wanted in Ireland is free play for the forces of economic law. And this can only be obtained, at least so far as appears, by a scheme which, without doing injustice to

any one, would make the farmers of Ireland, in large numbers, owners of their holdings, and which would give to those who had to continue tenants, fixity of tenure at a fixed rent, and, of course, as a natural consequence, the right of free sale. (See GREAT BRITAIN.)

LANE, JOSEPH, born December, 1801, in North Carolina; died April 19, 1881, in Oregon, aged eighty years. In 1802 his father settled in Kentucky, and in 1821 Mr. Joseph Lane became a resident of Indiana. His talents and ability were so marked that in one year after his settlement in the State he was sent to the Legislature, and, in one House or the other, continued to serve until 1846. He then resigned his seat in the State Senate, and at the head of an Indiana regiment went to the Mexican War. After a time he was appointed brigadier-general, and at the famous battle of Buena Vista commanded the left wing of the American army. After his recovery from a wound received in that battle, he returned to the army, and defeated Santa Anna at Huamantla, following up the victory shortly afterward with the capture of important posts. On the 22d of November, 1847, he took the town of Matamoros, with a quantity of military stores. At the end of the war he was brevetted major-general, and in August, 1848, was appointed by President Polk Governor of Oregon, from which office he was removed by President Taylor. On the admission of Oregon into the Union he was made United States Senator, and in 1860 was put on the same presidential ticket with John C. Breckenridge, being the nominee of one of the wings of the Democracy for Vice-President. His defeat ended his prominent political career. Though he bore so illustrious a part in the war with Mexico, the gratitude of his country was never manifested by a pension or other mark of sympathy, and only a year before his death he declined an invitation to attend a reunion of Mexican veterans, because he was too poor to make the journey. With the modest dignity of true self-reverence he accepted his obscure old age in the Oregon village, where he calmly passed away from the scenes and affairs amid which he had long endeavored to make his life useful to his fellow-men.

LAW, CONSTITUTIONAL: ITS RECENT PROGRESS. In no period of our history have more and greater constitutional questions of vital importance been adjudicated by the highest judicial tribunal of the nation than have recently been decided by the Supreme Court of the United States, in cases involving the relations existing between the States and the General Government. Most of these questions grew out of the constitutional and congressional enactments following the war, and involved issues raised before, during, and after the war. The post-war amendments to the Constitution made a radical change in the relations borne by the States to the General Government. They carved out a vast extent of State sovereignty,

and added it to Federal sovereignty. The power of Congress has thus been greatly enlarged, and that of the States correspondingly diminished. In the exercise of this power Congress has made extensive limitations upon State rights. The Supreme Court has frequently been called upon to determine the purport and validity of this legislation, and the meaning of the Constitution on questions of State and Federal sovereignty; and the doctrines it has affirmed, generally on a divided opinion of the judges, have greatly strengthened if not enlarged the sovereignty of the nation. Hence there has been in recent years a steady and extensive development of a central power, or a remarkable advance toward centralization, in our system of government. A striking illustration of this fact is afforded by a brief review of some of the most important constitutional doctrines recently affirmed by the Supreme Court.

The fourteenth amendment declares that "all persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside." It then declares that "no State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws." This enactment clearly limits the power of a State over its citizens, but in what respects the limitation operates, or how far it goes, is a vitally important question, on which the Supreme Court has divided in every case which has come before it under the amendment. In the Slaughter-House cases the majority of the court drew a distinction between the privileges and immunities of a citizen of the United States and those of a citizen of a State, and held that it was only the former which the States were prohibited from abridging. In *Strauder against West Virginia* (100 U. S. Reports, 306), the majority went further, and declared that the amendment "was designed to assure to the colored race the enjoyment of all the civil rights that under the law are enjoyed by white persons, and to give to that race the protection of the General Government in that enjoyment whenever it should be denied by the States. It not only gave citizenship and the privileges of citizenship to persons of color, but it denied to any State the power to withhold from them the equal protection of the laws, and authorized Congress to enforce its provisions by appropriate legislation." But what are the "civil rights" which the States may not withhold? Is it a civil right of a colored person to marry a white person, to attend a school for whites, to follow the same professions and callings followed by whites? The court has held that the privilege of practicing law in the courts of a State is not a right

secured by the amendment to a white woman, nor one which a State is prohibited from denying or abridging. May a State regulate the practice of law in its own courts on the ground of color as well as sex? The court has admitted that a State may exclude from the jury-box all persons above or under a certain age; may exclude women; may make property or intelligence qualifications; may make conviction of an offense a disqualification. May it exclude colored jurors as well as the old, the young, the poor, the ignorant, and females? In other words, is the privilege of sitting on a jury, or the right to be tried by a jury from which blacks are not excluded, a right which a State is prohibited by the fourteenth amendment from denying to a colored citizen?

This question was raised, elaborately discussed, and decided in the Virginia jury cases, which came up in 1879, and are reported in 100 U. S. Reports. The decision of the court was in favor of the power of the General Government, and against that of the States. It held that whether a colored or a white citizen was on trial, whether life, liberty, or property, either of black or white, was at stake, no State has a right to exclude negroes from the jury by reason of their color, or to make any color or race discrimination in the selection of jurors in State courts. The amendment, said Justice Strong, "ordains that no State shall deprive any person of life, liberty, or property without due process of law, or deny to any person within its jurisdiction the equal protection of the laws. What is that but declaring that the law in the States shall be the same for the black as for the white; that all persons, whether colored or white, shall stand equal before the laws of the States; and in regard to the colored race, for whose protection the amendment was primarily designed, that no discrimination shall be made against them by law because of their color? The words of the amendment, it is true, are prohibitory, but they contain a necessary implication of a positive immunity, or right, most valuable to the colored race—the right to exemption from unfriendly legislation against them distinctively as colored—exemption from legal discriminations, implying inferiority in civil society, lessening the security of their enjoyment of the rights which others enjoy, and discriminations which are steps toward reducing them to the condition of a subject race. . . . The very fact that colored people are singled out and expressly denied by a statute all right to participate in the administration of the law as jurors, because of their color, is practically a brand upon them affixed by the law, an assertion of their inferiority and a stimulant to that race prejudice which is an impediment to securing to individuals of the race that equal justice which the law aims to secure to all others."

From this doctrine Justices Field and Clifford dissented in elaborate opinions written by the former in the cases of Virginia against Rives,

and *ex parte* Virginia, reported in 100 U. S. Reports. From these opinions the following passages are given, as showing the views of the minority of the court:

Its first clause [of the fourteenth amendment] declared who are citizens of the United States and of the States. It thus removed from discussion the question which had previously been debated, and though decided, not settled, by the judgment in the Dred Scott case, whether descendants of persons brought to this country and sold as slaves were citizens within the meaning of the Constitution. It also recognized if it did not create a national citizenship, as contradistinguished from that of the States. But the privilege or the duty, whichever it may be called, of acting as a juror in the courts of the country is not an incident of citizenship. Women are citizens; so are the aged above sixty, and children in their minority; yet they are not allowed in Virginia to act as jurors. Though some of these are in all respects qualified for such service, no one will pretend that their exclusion by law from the jury-list impairs their rights as citizens.

The second clause of the first section of the amendment declares that "no State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States." In the Slaughter-House cases it was held by a majority of the court that this clause had reference only to privileges and immunities of citizens of the United States, as distinguished from those of citizens of the States, and therefore did not apply to those fundamental civil rights which belong to citizens of all free governments, such as the right to acquire and enjoy property and pursue happiness, subject only to such just restraints as might be prescribed for the general good. If this construction be correct, there can be no pretense that the privilege or duty of acting as a juror in a State court is within the inhibition of the clause. . . .

The third clause in the first section of the amendment declares that no State "shall deprive any person of life, liberty, or property without due process of law." It will not be contended that this clause confers upon the citizen any right to serve as a juror in the State courts. It exists in the Constitutions of nearly all the States, and is only an additional security against arbitrary deprivation of life and liberty, and arbitrary spoliation of property. It means that neither can be taken or the enjoyment thereof impaired, except in the course of the regular administration of the law in the established tribunals. The existence of this clause in the amendment is to me a persuasive argument that those who framed it never contemplated that the prohibition was to be enforced in any other way than through the judicial tribunals, as previous prohibitions upon the States had always been enforced. If Congress could, as an appropriate means to enforce the prohibition, prescribe criminal prosecutions against legislators, judges, and other officers of the States, it would be authorized to frame a vast portion of their laws. . . .

The fourth clause in the first section of the amendment declares that no State shall "deny to any person within its jurisdiction the equal protection of the laws." . . . The equality of the protection secured extends only to civil rights as distinguished from those which are political, or arise from the form of government and its mode of administration. . . . It secures to all persons their civil rights upon the same terms; but it leaves political rights, or such as arise from the form of government and its administration, as they stood previous to its adoption. It has no more reference to them than it has to social rights and duties, which do not rest upon any positive law, though they are more potential in controlling the intercourse of individuals. In the consideration of questions growing out of these amendments much confusion has arisen from a failure to distinguish between the civil and the political rights of citizens. Civil rights are absolute and personal. Political rights, on the other

hand, are conditioned and dependent upon the discretion of the elective or appointing power, whether that be the people acting through the ballot, or one of the departments of their government. The civil rights of the individual are never to be withheld, and may be always judicially enforced. The political rights which he may enjoy, such as holding office and discharging a public trust, are qualified because their possession depends on his fitness, to be adjudged by those whom society has clothed with the elective authority. The thirteenth and fourteenth amendments were designed to secure the civil rights of all persons, of every race, color, and condition; but they left to the States to determine to whom the possession of political powers should be intrusted.

The great change made since the war in the relations between the States and the General Government, and the extent of the power taken from State and given to Federal sovereignty, are nowhere more strikingly shown than by the interpretation given to the fourteenth amendment by the Supreme Court, in the case of *ex parte* Virginia, decided in 1879, and reported in 100 United States Reports. The case grew out of the indictment, in the United States District Court, of Judge Coles, a Virginia judge, on a charge of excluding blacks from the jury-lists made out by him. There was no State statute disqualifying colored jurors. The question raised was, whether Congress has any authority to punish a judicial officer of a State for his official acts. The court held that Congress has this power, and the opinion goes to the extent that the power extends to the punishment of any State officer for acts done in violation of Federal laws, though such acts may be in obedience to and required by State laws. The change thus wrought in our constitutional law may be illustrated by a comparison of this doctrine with that affirmed by the same court, in the case of the Commonwealth of Kentucky against Dennison, the Governor of Ohio, decided in 1860, and reported in 24 Howard's Reports. In that case the court held that neither Congress nor the Supreme Court of the United States had the power to compel the chief Executive of one State to deliver to the authorities of another a fugitive from justice. "Indeed, such a power," said Chief-Justice Taney, in delivering the opinion of the court, "would place every State under the control and domination of the General Government, even in the administration of its internal concerns." The enlarged powers which the court now holds to be in Congress are derived, in the opinion of the court, from that clause of the fourteenth amendment which declares that "no State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, . . . nor deny to any person within its jurisdiction the equal protection of the law." As to the purpose and effect of this clause the court was divided in opinion. Two of its nine members maintained that the prohibition extended only to the Legislature, and applied only to legislation; and hence that it gave Congress no authority over the executive and judicial departments of a State. Jus-

tice Hunt did not sit in the case. The other six justices, constituting the majority of the court, held, in the language of Justice Strong, who wrote the opinion, that the prohibitions "have reference to the actions of the political body denominated a State, by whatever instruments or in whatever modes that action may be taken. A State acts by its Legislature, its Executive, or its judicial authorities. It can act in no other way. The constitutional provision, therefore, must mean that no agency of the State, or of the officers or agents by whom its powers are exerted, shall deny to any person within its jurisdiction the equal protection of the laws. Whoever, by virtue of public position under a State government, deprives another of property, life, or liberty, without due process of law, or denies or takes away the equal protection of the laws, violates the constitutional inhibition; and as he acts in the name and for the State, and is clothed with the State's power, his act is that of the State. This must be so, or the constitutional prohibition has no meaning. Then the State has clothed one of its agents with power to annul or to evade it" (*Ex parte* Virginia, 100 U. S. Reports, 346, 347.)

This view was combated by Justice Field, in a dissenting opinion, in which Justice Clifford concurred. "As the State," said Justice Field, "in the administration of its government, acts through its executive, legislative, and judicial departments, the inhibition applies to them. But the executive and judicial departments only construe and enforce the laws of the State; the inhibition, therefore, is in effect against passing and enforcing any laws which are designed to accomplish the ends forbidden. If an executive or judicial officer exercises powers with which he is not invested by law, and does unauthorized acts, the State is not responsible for them. The action of the judicial officer in such a case, where the rights of a citizen under the laws of the United States are disregarded, may be reviewed or corrected or reversed by this court. It can not be imputed to the State, so as to make it evident that she, in her sovereign or legislative capacity, denies the rights invaded, or refuses to allow their enforcement. It is merely the ordinary case of an erroneous ruling of an inferior tribunal. Nor can the unauthorized action of an executive officer, infringing upon the rights of the citizen, be taken as evidence of her intention or policy, so as to charge upon her a denial of such rights." (*Virginia against Rives*, 100 U. S. Reports, 333, 334.)

"Nothing, in my judgment, could have a greater tendency to destroy the independence and autonomy of the States, reduce them to a humiliating and degrading dependence upon the central Government, engender constant irritation, and destroy that domestic tranquillity which it was one of the objects of the Constitution to insure, than the doctrine asserted in this case that Congress can exercise coercive authority over judicial officers of the States in the dis-

charge of their duties under State laws. It will be only another step in the same direction toward consolidation when it assumes to exercise similar coercive authority over Governors and legislators of the States. . . . Those who regard the independence of the States in all their reserved powers—and this includes the independence of their legislative, judicial, and executive departments—as essential to the successful maintenance of our form of government, can not fail to view with the gravest apprehension for the future, the indictment in a court of the United States of a judicial officer of a State for the manner in which he has discharged his duties under her laws and of which she makes no complaint. The proceeding is a gross offense to the State; it is an attack upon her sovereignty in matters over which she has never surrendered her jurisdiction. The doctrine which sustains it, carried to its logical results, would degrade and sink her to the level of a mere local municipal corporation; for, if Congress can render the officer of a State criminally liable for the manner in which he discharges his duties under her laws, it can prescribe the nature and extent of the penalty to which he shall be subjected on conviction; it may imprison him for life, or punish him by removal from office; and, if it can make the exclusion of persons from jury service on account of race or color a criminal offense, it can make their exclusion from office on that account also criminal, and, adopting the doctrine of the district judge in this case, the failure to appoint them to office will be presumptive evidence of their exclusion on that ground. To such a result are we logically led. The legislation of Congress is founded and is sustained by this court, as it seems to me, upon a theory as to what constitutes the equal protection of the laws, which is purely speculative, not warranted by an experience of the country, and not in accordance with the understanding of the people as to the meaning of those terms since the organization of the Government.” (*Ex parte Virginia*, 100 U. S. Reports, 358, 369, 370.)

In the subsequent cases of *Siebold and Clarke* (100 United States Reports, 371, 399) the court affirmed the doctrine that in the case of an election at which members of Congress are voted for, although State officers may also be then chosen, Congress has the constitutional power to pass an act for the punishment of a State election officer for failing to perform his duty under a State election law, or otherwise violating that law in any matter affecting the election of representatives in Congress. The question arose under section 5515 of the Revised Statutes of the United States, which was originally enacted in 1870 in the Enforcement Act, whose declared purpose was “to enforce the right of citizens of the United States to vote in the several States of this Union.” It provides that “every officer of an election at which any representative or delegate in Congress is voted for, whether such officer of election be

appointed or created by or under any law or authority of the United States, or by or under any State, Territorial, district, or municipal law or authority, who neglects or refuses to perform any duty in regard to such election required of him by any law of the United States, or of any State or Territory thereof, or who violates any duty so imposed,” shall be punished by fine or imprisonment, or both, as prescribed by the act of Congress. Under this law *Clarke*, a State election officer at an election held in Cincinnati, at which both members of Congress and State officers were chosen, was convicted in the United States Circuit Court for violating a law of Ohio by not conveying the ballot-box, after it had been sealed up and delivered to him for that purpose, to the county clerk, and for allowing it to be broken open. It was contended in his behalf that the act of Congress was unconstitutional for the reason that that body had no power to punish a State officer for the violation of a State law. The Supreme Court upheld the constitutionality of the legislation under that clause of the Constitution which provides that “the times, places, and manner of holding elections for senators and representatives shall be prescribed in each State by the Legislature thereof, but the Congress may, at any time, by law make or alter such regulations, except as to the place of choosing senators.” The following passage from the opinion delivered by Justice Bradley shows the views of the court on this point:

It is objected that Congress has no power to enforce State laws or to punish State officers, and especially has no power to punish them for violating the laws of their own State. As a general proposition, this is undoubtedly true; but when, in the performance of their functions, State officers are called upon to fulfill duties which they owe to the United States as well as to the State, has the former no means of compelling such fulfillment? Yet such is the case here. It is the duty of the States to elect representatives to Congress. The due and fair election of these representatives is of vital importance to the United States; the Government of the United States is no less concerned in the transaction than the State government is. It certainly is not bound to stand by as a passive spectator when duties are violated and outrageous frauds are committed. It is directly interested in the faithful performance by the officers of election of their respective duties. Those duties are owed as well to the United States as to the States. This necessarily follows from the mixed character of the transaction—State and national. A violation of duty is an offense against the United States, for which the offender is justly amenable to the Government. No official position can shelter him from this responsibility. In view of the fact that Congress has plenary and paramount jurisdiction over the whole subject, it seems almost absurd to say that an officer who receives or has custody of the ballots given for a representative owes no duty to the national Government which Congress can enforce; or that an officer who stuffs the ballot-box can not be made amenable to the United States. If Congress has not, prior to the passage of the present laws, imposed any penalties to prevent and punish frauds and violations of duties committed by officers of election, it has been because the exigency has not been deemed sufficient to require it, and not because Congress had not the requisite power.

The objection that the laws and regulations, the violations of which are punishable by the acts of Congress, are State laws, and have not been adopted by

Congress, is no sufficient answer to the power of Congress to impose punishment. It is true that Congress has not deemed it necessary to interfere with the duties of the ordinary officers of election, but has been content to leave them as prescribed by State laws. It has only created additional sanctions for their performance, and provided means of supervision in order more effectually to secure such performance. The imposition of punishment implies a prohibition of the act punished. The State laws, which Congress sees no occasion to alter, but which it allows to stand, are in effect adopted by Congress. It simply demands their fulfillment. Content to leave the laws as they are, it is not content with the means provided for their enforcement. It provides additional means for that purpose; and we think it is entirely within its constitutional power to do so. It is simply the exercise of the power to make additional regulations. (*Ex parte Siebold*, 100 U. S. Reports, 387.)

From this doctrine Justices Field and Clifford dissented. Justice Hunt took no part in the case. Hence but six justices concurred in the decision of the court. In an elaborate opinion, in which Justice Clifford concurred, Judge Field maintained: first, that Congress has no power to punish a State officer for the manner in which he discharges duties imposed upon him by the laws of the State, or to subject him, in the performance of such duties, to the supervision and control of others, and punish him for resisting their interference; and, second, that it is not competent for Congress to make the exercise of its primitive power dependent upon the legislation of the States. He did not doubt that Congress might adopt the law of a State, but, in that case, the adopted law must be enforced as a law of the United States. In the case before the court there was no pretense of such adoption. The act of Congress did not say that the neglect or disregard of a duty prescribed by any *existing* law of Ohio should constitute the defense. It is the neglect or disregard of *any duty* prescribed by *any law* of the State, *present or future*. "The act of Congress," said Judge Field, "asserts a power inconsistent with, and destructive of, the independence of the States. The right to control their own officers, to prescribe the duties they shall perform, without the supervision or interference of any other authority, and the penalties to which they shall be subjected for a violation of duty, is essential to that independence. If the Federal Government can punish a violation of the laws of the State, it may punish obedience to them, and graduate the punishment according to its own judgment of their propriety and wisdom. It may thus exercise a control over the legislation of the States subversive of all their reserved rights. However large the powers conferred upon the government formed by the Constitution, and however numerous its restraints, the right to enforce their own laws by such sanctions as they may deem appropriate is left where it was originally—with the States. It is a right which has never been surrendered. Indeed, a State could not be considered as independent in any matter with respect to which its officers, in the discharge of

their duties, could be subjected to punishment by any external authority; nor in which its officers, in the execution of its laws, could be subject to the interference of others." (*Ex parte Clarke*, 100 U. S. Reports, 409.)

In *Tennessee against Davis* (100 United States Reports, 257), decided at the term beginning in October, 1879, one of the most important questions that has ever risen as to the relations between the State and the Federal Government was elaborately discussed and decided by the Supreme Court. It was whether Congress has the constitutional power to authorize the removal from a State to a Federal court of a case in which a revenue officer of the United States has been indicted by the State authorities for a crime against the State committed by the accused in the discharge of his duties as a Federal officer, and whether the Federal courts have the right to try the prisoner when Congress has neither defined the crime with which he is charged, nor prescribed punishment for it.

"A more important question," said Justice Strong, who delivered the opinion of the court, "can hardly be imagined. Upon its answer may depend the possibility of the General Government's preserving its own existence."

The question arose under the act passed by Congress in 1866, and now embodied in section 643 of the Revised Statutes of the United States. The statute provides that "when any civil suit or criminal prosecution is commenced in any court of a State against any officer appointed under, or acting by authority of, any revenue law of the United States, now or hereafter enacted, or against any person acting by or under authority of any such officer, on account of any act done under color of his office or of any such law, or on account of any right, title, or authority claimed by such officer or other person under any such law," the case may be removed from the State into the United States Circuit Court and there tried. The prisoner, Davis, had been indicted for murder in one of the courts of Tennessee. He petitioned for the removal of his case to the Federal court, alleging that he was a United States deputy collector of internal revenue; that it was his duty to seize illicit distilleries; that while so attempting to enforce the revenue laws of the United States he was assaulted and fired upon by a number of armed men, and that in self-defense he returned the fire, and committed the homicide for which he had been indicted. In behalf of the State, it was contended that murder within a State is not made a crime nor is it punishable by any act of Congress, and hence is not triable by a Federal court; that it is a crime against the peace and dignity of the State, defined and punished by the laws of the State, and a matter wholly within the jurisdiction of the courts of the State. It was further maintained that the act of Congress was intended to apply only to cases involving offenses against the revenue laws, and that if its purpose or effect was to

authorize the removal to the Federal courts of cases involving crimes against State but not Federal laws, it was in violation of the sovereignty of the State and the Constitution of the United States.

The Supreme Court, by six of its nine justices, Justices Clifford and Field dissenting, and Justice Hunt being absent, overruled these objections, and held that the removal was authorized by the act of Congress; that it was a case within the jurisdiction of the Federal courts, and that Congress had, under the Constitution, the power which it had exercised. The court further held that the act of Congress authorizes the removal of any cause when the acts of the defendant complained of were done, or claimed to have been done, in the discharge of his duty as a Federal officer. "That the act of Congress," says the opinion, "does provide for the removal of criminal prosecutions for offenses against the State laws, when there arises in them the claim of the Federal right or authority, is too plain to admit of denial. Such is its positive language, and it is not to be argued away by presenting the supposed incongruity of administering State criminal laws by other courts than those established by the State. It has been strenuously urged that murder within a State is not made a crime by any act of Congress, and that it is an offense against the peace and dignity of the State alone. Hence it is inferred that its trial and punishment can be conducted only in State tribunals, and it is argued that the act of Congress can not mean what it says, but that it must intend only such prosecutions in State courts as are for offenses against the United States—offenses against the revenue laws. But there can be no criminal prosecutions initiated in any State court for that which is merely an offense against the General Government. If, therefore, the statute is allowed to mean anything, when it speaks of criminal prosecutions in State courts, it must mean that those are instituted for alleged violations of State laws in which defenses are set up or claimed under United States laws or authority."

The authority of Congress to pass the act, the court said, was found in that provision of the Constitution which empowers Congress to provide for carrying into effect all powers granted by the Constitution. Among these powers is the Federal judicial power, which extends to "all cases in law and equity arising under the Constitution, the laws of the United States," etc. This provision, the court declared, embraces alike civil and criminal cases under the Constitution and Federal laws; and criminal as well as civil cases may be removed from a State to a Federal court whenever the Federal authority is called in question. The vast power of the General Government is set forth by Justice Strong as follows:

The United States is a government with authority extending over the whole territory of the Union, acting upon the States and upon the people of the States.

While it is limited in the number of its powers, so far as its sovereignty extends, it is supreme. No State government can exclude it from the exercise of any authority conferred upon it by the Constitution, obstruct its authorized officers against its will, or withhold from it for a moment the cognizance of any subject which that instrument has committed to it. . . . The founders of the Constitution could never have intended to leave to the possibly varying decisions of the State courts what the laws of the government it established are, what rights they confer, and what protection shall be extended to those who execute them. If they said, Where is the supremacy over those questions vested in the Government by the Constitution?—if, whenever and wherever a case arises under the Constitution and laws or treaties of the United States, the national Government can not take control of it, whether it be civil or criminal, in any stage of its progress—its judicial power is, at least, temporarily silenced instead of being at all times supreme. In criminal as well as in civil proceedings in State courts, cases under the Constitution and laws of the United States might have been expected to arise, as, in fact, they do. Indeed, the powers of the General Government, and the lawfulness of authority exercised or claimed under it, are quite as frequently in question in criminal cases in State courts as they are in civil cases, in proportion to their number.

From the decision of the majority Justices Clifford and Field dissented, the former writing an elaborate opinion, in which the latter concurred. Justice Clifford maintained that the act of Congress in question did not authorize the removal of a State indictment for an offense against the laws of the State from the State to the Federal courts for trial, and that, if it did, it was unconstitutional and void. He held that the Federal courts have no jurisdiction of a criminal act which Congress has not made a crime. "Decided cases everywhere hold," he said, "that, unless Congress first defines the offense, affixes the punishment, and declares, in some way, the court that shall have jurisdiction of the accusation, the Circuit Court can neither try the accused nor sentence him to punishment. Even the power of Congress to define offenses and provide for the punishment of offenders is limited to such subjects and circumstances as relate and are peculiar to the Federal Government." He admitted that Congress might declare the killing of a revenue officer, while in the discharge of his official duties, even when done within a State, to be murder, and might prescribe punishment for the crime. In that case the Federal courts would have jurisdiction of it. "But the principal question in this case," he said, "is of a very different character, as the indictment is against the officer of the revenue for murdering a citizen of the State, having in no way any official connection with the collection of the public revenue. Neither the Constitution nor the acts of Congress give a revenue officer, or any other officer of the United States, an immunity to commit murder in a State, or prohibit the State from executing its laws for the punishment of the offender. . . . Nobody before ever pretended that such an offense ever was or could be defined by an act of Congress as an offense against the Federal authority, or

that the Circuit Court, or any other Federal court, has or ever had any jurisdiction of such a case to try or sentence such offender for such an offense. . . . Legislative power is undoubtedly vested in Congress to pass laws to define and punish offenses against the authority of the United States; but it does not follow by any means that a prisoner, charged with murder committed in violation of the laws of a State, may claim to be tried in a Federal Circuit Court, or that a State indictment for such an offense constitutes a case arising under the Constitution or the laws of the United States, or that it can in any way become cognizable in such a tribunal, certainly not unless it can be removed there in pursuance of some act of Congress defining the offense and providing for the trial and punishment of the offender. Persons charged with offenses against the authority of the States find ample guarantees of a fair trial in the laws of the States and the usages of the State courts, and, if the Federal officers need more, it belongs to Congress to provide the remedy in some mode authorized by the Constitution. . . . Large concessions were made by the States to the United States, but they never ceded to the national Government their police powers, or the power to define and punish offenses against their authority, as admitted by all courts and all commentators upon the Constitution."

The same view was also maintained by Justice Field, with whom Justice Clifford concurred, in the dissenting opinion in the case of *Virginia against Rives* (100 U. S. Reports, 336). He claimed that murder committed within a State, in violation of its laws, is an offense against the authority of the State, and that the State alone has the right to try and punish the offender. "Murder," he said, "is not an offense against the United States, except when committed on an American vessel on the high seas, or in some port or haven without the jurisdiction of the State, or in the District of Columbia, or in the Territories, or at places where the national Government has exclusive jurisdiction. The offense within the limits of a State, except where jurisdiction has been ceded to the United States, is as much beyond the jurisdiction of these courts as though it had been committed on another continent. The prosecution of the offense in such a case does not, therefore, arise under the Constitution and laws of the United States; and the act of Congress which attempts to give the Federal courts jurisdiction of it is, to my mind, a clear infraction of the Constitution. . . . I do not think I am going too far in asserting that, had it been supposed a power so dangerous to the independence of the States, and so calculated to humiliate and degrade them, lurked in any of the provisions of the Constitution, that instrument would never have been adopted."

By the acts of Congress passed during and since the war, for the removal of causes, the

jurisdiction of the Federal courts has been immensely enlarged, and that of the State courts correspondingly diminished. "From various causes which we need not now stop to trace," says Judge Dillon, in his work on "Removal of Causes," "the small tide of litigation that formerly flowed into Federal channels has swollen into a mighty stream. Certain it is that of late years the importance of the Federal courts has rapidly increased, and that much, perhaps most, of the great litigations of the country are now conducted in them." Among the special statutes that have been passed on this subject may be mentioned those providing for the removal from State to Federal courts in civil and criminal cases against persons denied civil rights; in civil and criminal cases against revenue officers of the United States; in civil and criminal cases arising under the Federal election laws; in suits by aliens against officers of the United States, under specified circumstances; and in actions against Federal corporations. Besides these, several very important acts of more general operation have been passed. At the close of the war, the right of removal on the ground of citizenship was limited to cases in which the plaintiff, or all of the plaintiffs, if more than one, were citizens of the State in which the suit was brought, and the defendant, or all of the defendants, were citizens of another State or States. The right was further restricted to civil cases, and could be exercised only by the defendant, or, if more than one, all had to join in the application.

By the act of July 27, 1866, the right of removal was extended, under certain circumstances, to any one of the non-resident defendants so far as the action affected him. By the "prejudice or local influence" act of 1867 the right was given to both a non-resident plaintiff and a non-resident defendant, if either makes "an affidavit that he has reason to believe, and does believe, that from prejudice or local influence he will not be able to obtain justice in such State court." That is, on the conditions specified, if a suit is brought in a State court by a citizen of that State, against the citizen of another State, the latter may have the case removed to a Federal court; or when a person has brought an action in the courts of his own State against the citizen of another State, the plaintiff may remove it into the Federal court. "This act," says Dillon, "undoubtedly grew out of the condition of affairs in the Southern States after the war of the rebellion, and was intended to afford to plaintiffs who had resorted to the State court the right to transfer their suits to the Federal courts. This is the first act that, in any event, extended the right to a *plaintiff* to leave the forum he had voluntarily chosen, and in this respect was an entire departure from all the previous legislation. It is not so difficult to justify the act in this respect, even if it was intended to be permanent, as it is to sustain

the provision that this removal may be had, on filing the general affidavit of prejudice or local influence, 'at *any time* before trial or final hearing of the suit.'"

The act of March 3, 1875, made another very material enlargement of Federal at the expense of State jurisdiction. By all previous legislation, the right of removal was limited to cases in which either the plaintiff or the defendant was a citizen of the State in which the suit was originally brought. The act of 1875 abolishes this limitation and authorizes the removal of cases in which neither party is a citizen of the State in which the action was begun. It is enough if they are citizens of different States. They need not be citizens of that in which the suit is brought, and the right of removal is given to either plaintiff or defendant. Besides thus increasing the class of cases that may be removed into the Federal courts on the ground of citizenship, the act also materially widens the circle of those that may be removed on the ground of subject-matter independently of citizenship.

The constitutional validity of all these acts has been affirmed or recognized by the Supreme Court, and on controverted points, as to the meaning and effect of the acts, the decisions of the court, which have not always been unanimous, have tended greatly to extend the jurisdiction of the Federal judiciary, and hence to limit that of the State courts. Thus, in construing the act of 1867, the majority of the court held that a suit to annul a will as a muniment of title, and to restrain the enforcement of a decree admitting it to probate, was a suit in equity which might be removed to the Federal court when the parties were citizens of different States. Three of the judges dissented from this conclusion, and maintained that the question involved was simply one relating to the probate of a will, and that, under the act of Congress, the Federal tribunals had no jurisdiction of such a case. (*Gaines against Fuentes*, 92 United States Reports, 10.) And so, in the case of a Railroad Company against Mississippi, decided in 1880, and reported in 102 United States Reports, Justice Miller maintained, in a dissenting opinion, that the act of 1875 did not authorize a removal of a suit which was not founded on a Federal law, but in which a Federal law was incidentally involved in the defense merely. While Congress "intended to allow the removal of a suit where the very foundation and support thereof was a law of the United States, it did not intend to authorize a removal where the cause of action depended solely on the law of the State, and when the act of Congress only came in question incidentally as part (it might be a very small part) of the defendants' plea in avoidance." The majority of the court, however, consisting in this case of six justices, held that "it is not sufficient to exclude the judicial power of the United States from a particular case, that it

involves questions that do not at all depend on the Constitution or laws of the United States; but when a question to which the judicial power of the Union is extended by the Constitution forms an ingredient of the original cause, it is within the power of Congress to give the Circuit Courts jurisdiction of that cause, although other questions of fact or of law may be involved in it." The court has also held (*Insurance Company against Morse*, 20 Wallace, 445) that the right to remove cases into the Federal court pursuant to the acts of Congress can not be defeated by State legislation. In accordance with this view it declared that a State statute allowing a foreign corporation to do business in the State only on condition that it would agree not to remove suits against it to the Federal courts, was unconstitutional, and the agreement void.

A striking development of Federal power may also be traced in the decisions of the Supreme Court interpreting that clause of the Constitution which vests in Congress power to regulate commerce among the States and with foreign nations. For more than a third of a century after the adoption of the Constitution it was a much-debated question what were the respective rights of the national and the State governments under this clause. In 1824 the Supreme Court declared, in the case of *Gibbons against Ogden*, that the power to regulate foreign and interstate commerce was exclusive in Congress. This, however, left many important questions unsettled. For a quarter of a century after its announcement it was maintained, not only by leading public men and constitutional lawyers, but also by several of the Supreme Court justices, that in the absence of congressional legislation a State had the power to legislate on the subject, and two decisions of the Supreme Court during that period are in harmony with this doctrine, if they do not directly support it. In 1851, however, the court denied to the States most of the power that had been claimed for them, and conceded it to the Federal Government. It held that in all matters of national character and concern the power was exclusive in Congress, whether exercised or not, and hence that even in the absence of congressional action no State had authority to pass laws in matters of that kind. It conceded, however, that in the absence of Federal legislation a State might deal with certain strictly local matters pertaining to foreign and interstate commerce, but held that even in such case State legislation must give way to or at least harmonize with any acts that Congress might choose to pass on the subject.

The theory that in purely internal commercial affairs the authority of the State is supreme has never been denied. But even here the Federal power has been steadily carried by the logic of events and judicial decisions into the domain of every State, and corresponding inroads have been made upon State sovereignty.

Commerce has become nationalized, and now partakes of an interstate character to an extent that was perhaps not dreamed of by the framers of the Constitution. In 1870 the Supreme Court, holding that a steamer whose trips were made wholly within one State, was subject to the laws of Congress, because transporting things brought from or destined to another State, declared that all local agencies or instruments, though operating wholly within the State, fall under the jurisdiction of the General Government when employed in interstate commerce. "It is said," remarked the court, "that if the position here asserted be sustained, there is no such thing as the domestic trade of a State; that Congress may take the entire control of the commerce of the country, and extend its regulations to the railroads within a State on which grain or fruit is transported to a distant market. We answer that the present case relates to transportation on the navigable waters of the United States, and we are not called upon to express an opinion upon the power of Congress over interstate commerce when carried on by land transportation. And we further answer that we are unable to draw any clear and distinct line between the authority of Congress to regulate an agency employed in commerce between the States, when that agency extends through two or more States, and when it is confined in its action entirely within the limits of a single State. If its authority does not extend to an agency in such commerce, when that agency is confined within the limits of a State, its entire authority over interstate commerce may be defeated." (The *Daniel Ball*, 10 Wallace, 566.)

In the case of *Lord* against *Steamship Company*, decided during the session of 1880-'81, and reported in 102 United States Reports, the lines of Federal supremacy were carried by the court to a frontier in State domain before unknown. It held that a vessel plying exclusively between the ports of one State, and engaged in traffic purely and wholly internal, is employed in commerce over which Congress has exclusive control, provided that in making its trips it goes out of the jurisdictional waters of the State upon the high seas for any distance, however short. As vessels employed in domestic trade do generally go upon the high seas, the effect of this decision is to transfer from a claimed State to Federal control the bulk of the coasting-trade of the country, although carried on entirely within the limits of the States.

This general outline of the decisions by the Supreme Court shows a remarkable development of central power on the most important points affecting the relations between the States and the General Government.

LAWRENCE, WILLIAM BEACH, LL. D., an American jurist and eminent writer on international law, was born in the city of New York, October 23, 1800; died there, March 26, 1881.

He was the only son of Isaac Lawrence and his wife Cornelia, daughter of Dr. Abraham Beach, for many years one of the ministers of Trinity Church, New York, and a descendant of the first white child born in the colony of Connecticut. Isaac Lawrence was an opulent merchant, and for many years was President of the New York branch of the United States Bank, and one of the presidential electors of James Monroe. Lawrence's ancestors came from England about the middle of the seventeenth century, and received a patent for a portion of Long Island, now constituting the towns of Flushing, Hempstead, and Newtown. He was sent to Dr. Barry's school in Rector Street, and at the age of twelve, being too young to gain admission in Columbia College, he entered Rutgers in New Jersey, spending two years there, when he joined the former institution, graduating with high honors in the class of 1818. Henry J. Anderson was the only one above him, while James Lenox stood number nine in the same class. After a tour to the West as far as the Mississippi, Lawrence entered the office of William Slosson, an eminent New York lawyer. He also spent a year under the instruction of Judges Gould and Reeves, in whose law-school, at Litchfield, Connecticut, John C. Calhoun was then a student. During the winter of 1820-'21 Mr. Lawrence visited some of the leading families of South Carolina, and spent several days with Jefferson at Monticello, and with Madison at Montpelier. Soon after his return to New York he married Esther, daughter of Archibald Gracie, a wealthy merchant, and sailed for Europe in one of Mr. Gracie's ships, carrying letters of introduction from President Monroe, Secretary of State J. Q. Adams, the French minister, Joseph Bonaparte, his father-in-law's intimate friend and frequent guest, Madison, and Jefferson, by whom he was introduced to Lafayette, who entertained him and his young wife for a fortnight at La Grange. They were guests of Lord Holland at Holland House, and of the Bonapartes at Rome, then a center of elegant European society.

In 1823, Mr. Lawrence returned to the United States, and was there admitted as counselor to the Supreme Court of New York. His special attention was given there, as previously, to political economy and international law, but not to the exclusion of his taste for the beautiful, as seen in his address in 1825 before the New York Academy of Fine Arts. In 1826, at the request of Albert Gallatin, he was appointed secretary of legation to Great Britain, Gallatin being our ambassador, and his part in the negotiations may be inferred from Mr. Gallatin's report to the State Department, that Mr. Lawrence was competent alone to conduct the mission. In 1827 President Adams appointed him *chargé d'affaires*, and his correspondence with Lords Dudley and Aberdeen concerning the settlement of the boundary of our northern and northeastern frontier evinced his diplo-

matic ability and established his reputation as an expounder of international law. While in London he was intimate with members of the Political Economy Club, including McCulloch, Grote the historian, Jeremy Bentham, and Sir John Bowring, who became both his friend and physician, and he was a frequent contributor to the "Westminster Review." From England he went to Paris, and while pursuing his favorite studies, translated into English the "History of Louisiana," by Marbois (which was published in 1830), and made the acquaintance of Cousin, Guizot, Villemain, and many other men of eminence. On his return to New York after an absence of four years, he formed a law partnership with Hamilton Fish, and displayed great powers in prosecuting claims for indemnity under the treaty of 1831, called the Rives Treaty, in which the Lawrence family were largely interested, the claims being for spoliation under the decrees of Napoleon in violation of the law of nations. His arguments were commended by Webster, with whom he was associated in some of the most important cases.

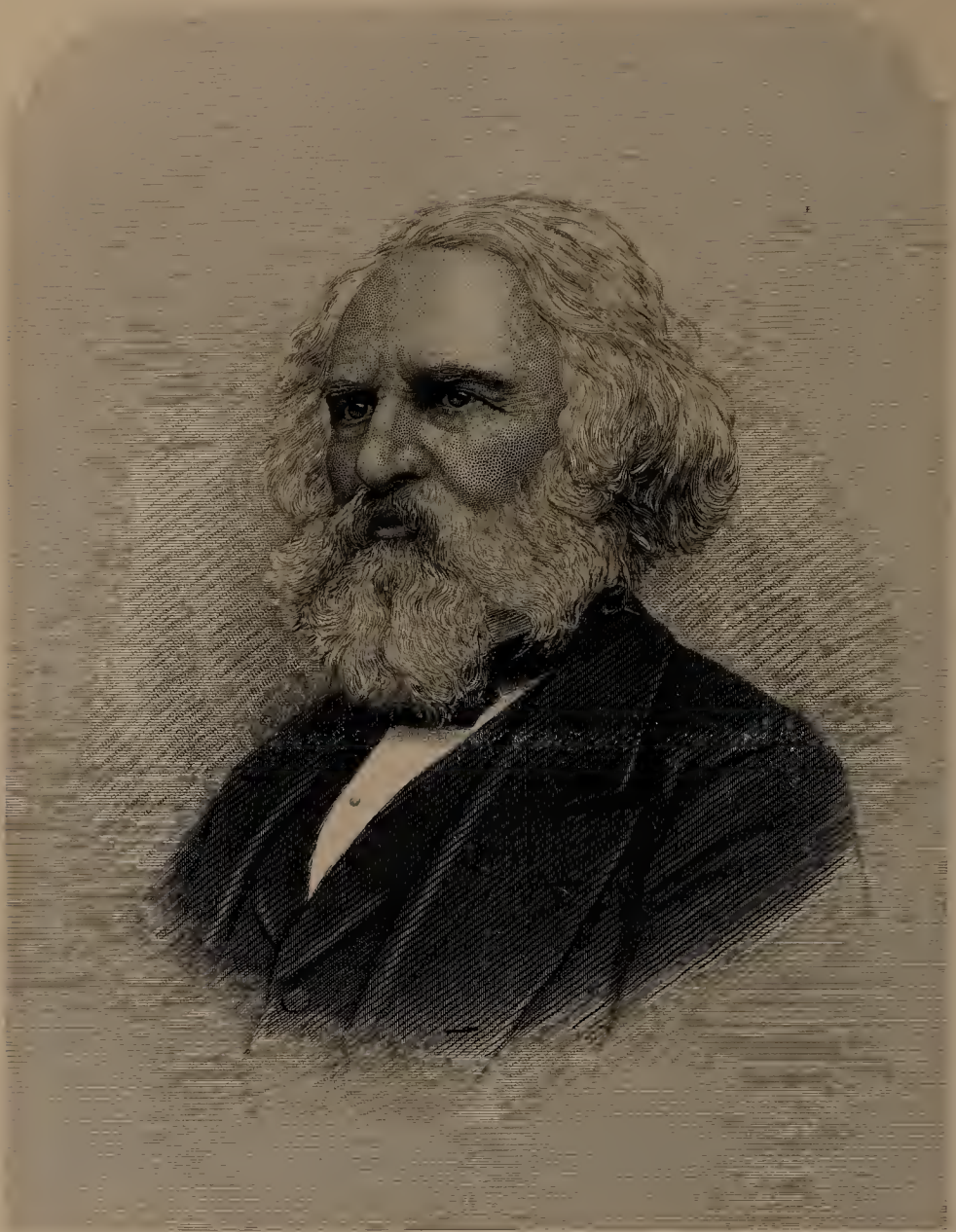
The lectures on political economy before the senior class of Columbia College were repeated by Mr. Lawrence before the Mercantile Library Association, and were afterward published. These able lectures were in defense of free trade, of which he was always a warm advocate. He was an active member of the New York Historical Society, and from 1836 to 1845 vice-president of the society, Gallatin being president. In the latter year, Mr. Lawrence, by his able argument before the Court of Errors, obtained a reversal of the Chancellor's decision (*Miller vs. Gable*, 4 Denio, 570). At this period he purchased a large estate known as Ochre Point, at Newport, Rhode Island, where he erected a commodious summer residence, and in 1850 he removed his permanent home to that place, where he continued to reside until his death, with the exception of an occasional visit to Europe, or a winter spent in Washington. Soon after his settlement in Newport he was elected Lieutenant-Governor, and in a short time, by a provision of the State Constitution, he became Governor of Rhode Island. While acting as such, he was instrumental in abolishing the law for imprisonment for debt, in procuring a reform in the management of the jails, and in advancing various other reforms.

After the death of his friend Henry Wheaton, Mr. Lawrence prepared an edition of his "Elements of International Law," which was published in 1855, for the benefit of Mr. Wheaton's destitute family. This work, which was more than doubled in size by the addition of Lawrence's original matter, made the name of Wheaton well known throughout the United States and Europe. It immediately met with almost universal adoption in courts and consular offices, and in colleges and universities, at home and abroad. A second edition, bringing the text down to date, was issued by Governor

Lawrence in 1863. Lawrence's Wheaton has ever since been the accepted text-book among diplomatists, and as such is always referred to in the United States Senate, to which body, in connection with the President, the whole treaty-making power is confided. It is the standard work in the English language upon the subject of international law, and it has appeared in many of the European tongues. It has even been translated into the languages of China and Japan, and was the first English work that appeared in Japanese. A rival edition by Richard Henry Dana, purporting to be original, and covering exactly the same ground as Lawrence's Wheaton, led to long litigation in the United States Circuit Court for Massachusetts. Judge Clifford fully confirmed the claims of Governor Lawrence, declaring Dana's work to be an infringement of the American copyright law, and said, "Such a comprehensive collection of authorities, explanations, and well-considered suggestions, is nowhere, in the judgment of the court, to be found in our language," as in Lawrence's Wheaton.

In 1868 there was published at Leipsic the first volume of Lawrence's great original work on "International Law." The fifth volume of this important treatise appeared in 1880, and the sixth and concluding volume, now in manuscript and almost complete, will soon be finished by another hand, and published by Brockhaus. This *magnum opus*, which was written and published in French, occupied a large portion of the author's time during the last twelve years of his long and busy life. Among his many other publications may be mentioned, "The History of the Negotiations in Reference to the Eastern and Northeastern Boundaries of the United States" (New York, 1841); "The Treaty of Washington" (Providence, 1871); "Disabilities of American Women Abroad" (New York, 1871); and "Administration of Equity Jurisprudence" (Boston, 1874).

While in Europe, Brown University conferred upon him the degree of Doctor of Laws, and he was distinguished as the first recipient of the title of Doctor of Civil Law granted in the United States, by a degree conferred by the Regents of the University of the State of New York. As an international counselor he was unsurpassed perhaps either in Europe or America. He achieved great professional distinction in appearing before the British and American International Tribunal at Washington, in 1873, in the case of the Circassian, involving more than half a million dollars. He won the suit, obtaining for his clients the reversal of a decision of the United States Supreme Court, the only instance of that character which has occurred in the country's history. Lawrence's argument in the case, on which the decision was rendered, is now regarded, both here and in Europe, as an authoritative exposition of several most important points of international law. He was one of the original members of the "Institute of the Law of Nations," com-

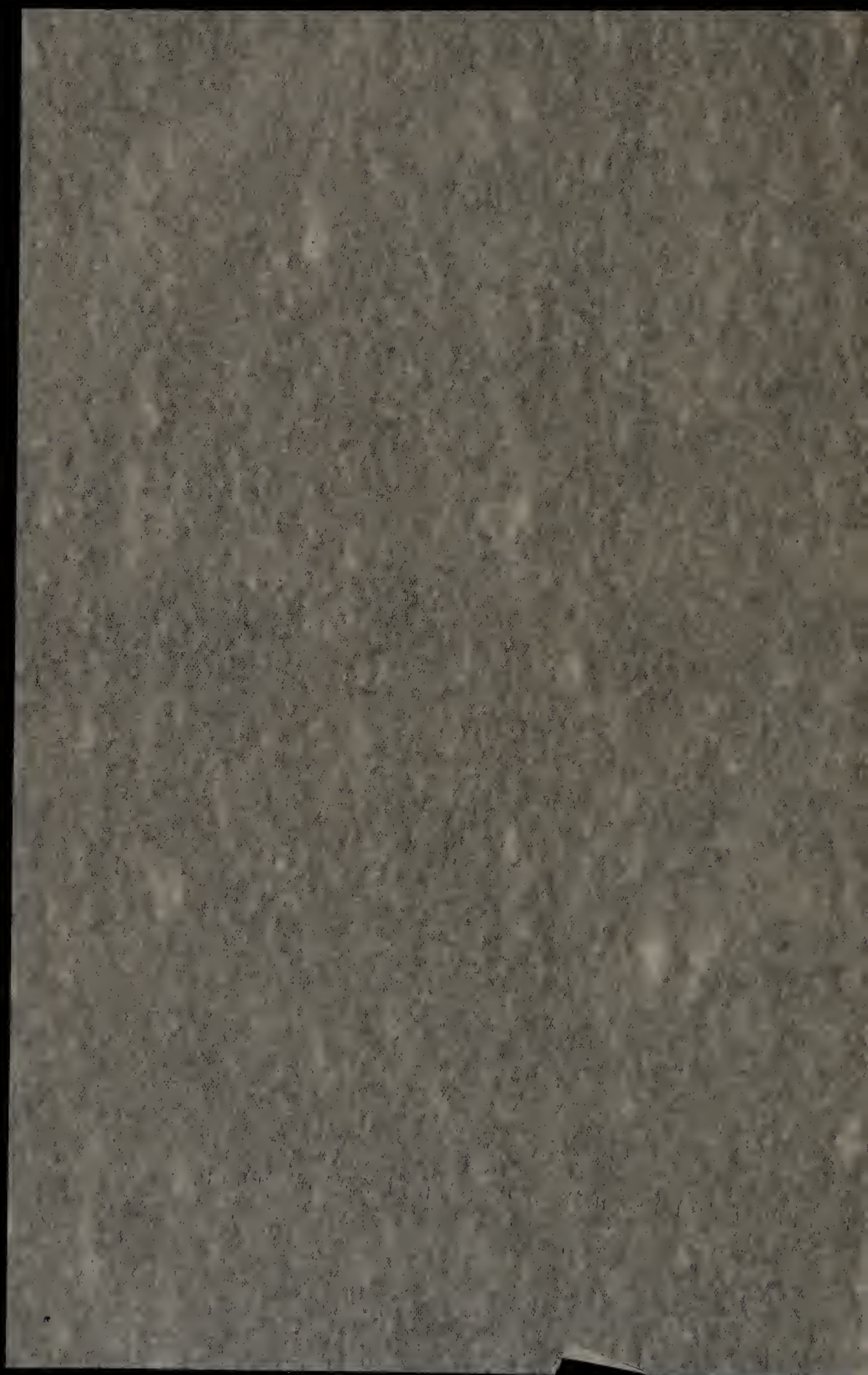


W. H. 1877

Henry W. Longfellow.

H. Appleton & Co.





posed of the most eminent publicists, and belonged to many literary and scientific societies. In politics he was ever true to those principles which in youth he personally learned from Jefferson and Madison. His several residences in Europe, associating there with the leading scholars, statesmen, and diplomatists, and for more than sixty years enjoying the same privilege in his native land, gave to Governor Lawrence a courtly and classic dignity of manner not often met with among our public men. For thirty years, Governor Lawrence was noted for the generous hospitality dispensed at Ochre Point. Few persons of distinction, in any walk of life, visited Newport without being entertained by him at his beautiful mansion by the sea. Here he had collected probably the most valuable private library of its character in the land, numbering more than ten thousand volumes, and including everything of value relating to international law and political economy to be found in the English, French, Spanish, and Italian languages. Governor Lawrence left three sons and two daughters, Mrs. Lawrence having died in 1858, a short time previous to his third visit to Europe. The closing item of his will contains a valuable warning to testators: "Aware of the ruinous consequences of litigation to all concerned in the case of wills, I do hereby declare it to be my will that in case any child or descendant of a child, who may claim any share in my estate, shall oppose the probate of this, my last will and testament, or take any legal proceedings to impeach the validity of any of its provisions, the said child or other descendant shall be debarred from all participation in my property, real or personal, and the share of such child or descendant shall descend to and be possessed by the person or persons who would have been entitled thereto, had said child or descendant of child died in my life-time." At the annual meeting of the New York Historical Society, held January 3, 1882, General James Grant Wilson delivered an address on Governor Lawrence, and at the same time presented to the society a fine marble bust by Dunbar, the gift of his eldest son, Isaac Lawrence; and also presented, in behalf of his executors, an unfinished paper on "The Life, Character, and Public Services of Albert Gallatin," which had been prepared for the society, but was not quite completed at the time of his death. This very valuable paper, the last literary work of his long and laborious career, was read to the society by Edward F. De Lancey, February 8, 1882, and has since been published; while General Wilson's address, with a portrait of Lawrence, appeared in the April number of the "Genealogical and Biographical Record."

LETELLIER DE SAINT-JUST, LUC, a Canadian statesman and ex-Lieutenant-Governor of Quebec, died February 1st, at the age of sixty-two. He was born at the seignory of River Ouelle, which he always considered his home, and where he died of a lingering lung-disease.

He was by profession a notary public, but his active bent led him into political life. He was elected to represent Kamouraska in the Canadian Parliament, at the age of thirty-one, and in several subsequent elections was defeated in the same district. In 1860 he was chosen one of the Legislative Council as representative from Grenville Division. After the Confederation he was made a Senator of the Dominion. Although deprived by the circumstances of his career from taking the prominent part as a political leader which he might have done as a member of the popular Assembly, he was still an active and decided politician of the liberal persuasion. In the popular Assembly he held the position of Minister of Agriculture for a few months in the Macdonald-Dorion Government, and when Mr. Mackenzie was called upon to form an administration in 1875 he accepted the same portfolio, with the position of leader of the French Liberal contingent in the Senate. In 1876 he resigned both senatorship and portfolio on his appointment to the lieutenant-governorship of Quebec. During his tenure of this office occurred the famous conflict which resulted in his defeat and retirement to private life, while the political world of Canada was shaken to the foundations by the constitutional crisis which he precipitated. He came into collision with his advisers, the members of the De Boucherville Government; and the quarrel between him and them ended in their dismissal, the formation of the Joly Government, and an appeal to the people, which resulted in a majority of one for the new administration. Letellier was accused by his political opponents of a blind and reckless partisanship which led him to overstep the principles of the Constitution, while his fellow-Liberals, though piqued at the electoral defeat which his course entailed, and disposed to condemn that course as a mistake in policy, applauded the courage with which he asserted the authority of the Executive, and approved his position at the time as just and patriotic.

LITERATURE, AMERICAN, IN 1881. There has been much more than the usual activity in American literature during the year. All departments of knowledge have received more or less attention, and the production of sound, healthful works has kept fair pace with the increasing mass of imaginative and fantastic publications in prose and verse. A considerable portion of American literary effort has been devoted to the translation of foreign books, the preparation and issue of new editions of all kinds of works that have met with favor, and the editing and making additions to English publications for the American market. A large amount of activity also, in American as in English literature, has found its outlet in reviews, magazines, journals, etc.

"The Publishers' Weekly," the organ of the American book-trade, gives as heretofore the lists of publications of the chief American houses, with a classified monthly synopsis of

the more prominent books. The result furnishes the following approximate numbers of books of various classes issued in 1881 (being nearly 1,000 more than were published during the preceding year):

CLASS.	No. of works.
Fiction.....	587
Juveniles.....	334
Theology and Religion.....	341
Biography, Memoirs, Correspondence, etc.....	212
Education, Language.....	157
Description, Travel, etc.....	164
Medical Science, Hygiene, etc.....	190
Poetry and the Drama.....	169
Literary History and Miscellany.....	123
Political and Social Science.....	86
History.....	108
Useful Arts, Commerce.....	78
Law and Government.....	76
Physical Science, Mathematics, etc.....	89
Fine Arts, Illustrated Works.....	57
Domestic and Rural.....	33
Amusements, Sports, etc.....	21
Humor and Satire.....	35
Music (Church and School).....	23
Mental and Moral Philosophy.....	27
Books of Reference.....	71
Total.....	2,991

In *Theology and Religion* there are few, if any, really great works which have appeared during the year; yet the contributions to this department are numerous and not unworthy of record. American divines have published largely in the way of sermons and lectures. The Rev. Dr. L. Bevan's "Sermons to Students and Thoughtful Persons" (New York, Scribner's Sons) are excellent in tone and teaching. Dr. H. C. Potter's "Sermons of the City" (New York, E. P. Dutton & Co.), addressed to a large and wealthy congregation, are equally appropriate and effective. Rev. E. E. Hale issues two volumes (Boston, Roberts), "The Kingdom of God" and "The Life in Common, and other Sermons," which are marked by the author's usual style and mode of dealing with his subject. Dr. E. H. Chapin's "Church of the Living God" and "God's Requirements, and other Sermons" (New York, James Miller), have been published since his death, and will serve to perpetuate his memory. Bishop A. N. Littlejohn's "Individualism: its Growth and Tendencies, with some Suggestions as to the Remedy for its Evils" (New York, T. Whittaker), contains the admirable discourses preached by him before the University of Cambridge, England. It is one of the most valuable and thoughtful volumes of the year. "Christ and Modern Thought" (Boston, Roberts) are the Boston Monday Lectures for 1880-'81, delivered by eminent American clergymen (Dr. J. C. Smith, Dr. Howard Crosby, Dr. McCosh, Bishop Clark, etc.), in the absence of Mr. Joseph Cook. It deals with topics no less interesting than important. Dr. M. Dix's "Lectures on the First Prayer-Book of King Edward VI" (New York, E. & J. B. Young & Co.) have excited much attention in the Episcopal Church, because of their severe treatment of the English Reformers, and the author's disposition to throw off, as much as possible, the Protestant character of the English Reforma-

tion. Rev. J. W. Chadwick's "The Man Jesus" (Boston, Roberts); Rev. Phillips Brooks's "The Candle of the Lord, and other Sermons" (New York, E. P. Dutton & Co.); Dean Howson's "Evidential Value of the Acts of the Apostles" (same publishers), are among the noteworthy books of this class. The tenth and last volume of "McClintock and Strong's Cyclopædia" (New York, Harper & Brothers) renders complete this valuable work; a supplementary volume is promised. In the way of republication the sermons of F. W. Robertson, of Stopford A. Brooke, of Dr. Vaughan, the Scotch Sermons, Hatch's Bampton Lectures on the organization of the early Church, and W. Robertson Smith's Old Testament in the Jewish Church (twelve lectures on Biblical Criticism), deserve brief mention here, as indicating the drift of theological opinion and speculation on the important topics of inspiration, right interpretation of Holy Scripture, the eternal world, etc. Dr. Geikie's "Hours with the Bible" (3 volumes, New York, James Pott) is well-timed, and presents in a popular style the results of biblical study and research in connection with Old Testament history and exegesis. Punchard's "History of Congregationalism, from about A. D. 250 to the Present Time" (Boston, Congregational Publishing Society) gives "Congregationalism in America" in the fourth volume; it is regarded as the standard history of that denomination. Merle D'Aubigné's "History of the Reformation in the Sixteenth Century" has been brought out, five volumes in one, by Carters, New York. Its merits and defects, as some esteem them, are too well known to need special mention here. In Exegesis, Dr. H. Cowles has added two volumes ("St. Matthew and St. Mark" and "St. Luke and the Acts of the Apostles") to his other valuable contributions, making in all nine volumes on the Old Testament and seven upon the New (New York, D. Appleton & Co.). A "Commentary on the Gospel of St. Luke," from the French, by Rev. F. Godet, edited by Dr. John Hall (New York, I. K. Funk & Co.), and Dr. W. H. Van Doren's "Suggestive Commentary" on the same Gospel (same publishers), deserve mention in this connection. So also does Dr. Young's "Analytical Concordance to the Bible" (republished by Funk & Co., New York), as being the most learned and complete work of the kind in the English language. Apologetical works are quite numerous. Professor J. L. Diman's "The Theistic Argument as affected by Recent Theories," such as development, evolution, natural selection (Boston, Houghton, Mifflin & Co.); Dr. B. Franklin's "The Creed and Modern Thought" (E. & J. B. Young & Co, New York); and Godet's "Lectures in Defense of the Christian Faith" (New York, A. D. F. Randolph & Co.), are each in its way able, effective, and well-timed, in view of the wide range which has been given to the discussion of the evidences of Christianity.—The most noteworthy event, however, in the

religious and theological record of the year is the publication of the Revised Version of the New Testament. This had been long and anxiously waited for, and, when it did appear, the excitement was intense. The printing-press could hardly furnish copies fast enough to supply the demand; edition after edition was called for; the New Testament became for the time the best-read book in the language; and the amount of examination which the New Version roused into activity was indeed marvelous. From every quarter, too, criticism has been freely bestowed, and the result, in few words, is that the New Version (for it is really *new*, though professedly only "revised") takes its place as a work of substantial merit and value. It may not—it probably will not—be adopted, *in toto*, by any large portion of the English-speaking Christian world; but it will be acknowledged by all as a monument of the painstaking care and faithful diligence of the large body of scholars and divines, American as well as English, who prosecuted it to its final completion. The year 1881 is also notable, in this department, as having witnessed the publication of Drs. Westcott and Hort's "New Testament in the Original Greek," a work of the highest value to theology. The American edition is edited by Dr. Schaff, with an Introduction (New York, Harper & Brothers).

Philosophy, both mental and moral, presents almost a blank in 1881. Dr. Mark Hopkins's work, "The Law of Love, and Love as a Law, or Christian Ethics," has been issued in a new and revised edition (New York, Scribner's Sons); in it the theory of morals is restated for use, and there is given also "The Outline Study of Man." Dr. L. P. Hickok's "Empirical Psychology" (Boston, Ginn, Heath & Co.) appears in a new and revised edition, with the co-operation of President Seelye, of Amherst. Mr. W. W. Kingsley's "Views on Vexed Questions" (Philadelphia, Lippincott & Co.) are well worth looking into, though not very profound; and Miss Frances Power Cobbe discusses "The Duties of Women" (Boston, G. H. Ellis) with her usual pith and point. Among reprints is A. C. Fraser's "Berkeley" (Philadelphia, Lippincott), and of more than ordinary merit; also, Mr. J. Sully's "Illusions: a Psychological Study" (International Scientific Series, D. Appleton & Co.); F. A. Lange's "History of Materialism and History of its Present Importance," authorized edition, in three volumes (English and Foreign Philosophical Library, Boston, Houghton, Mifflin & Co.); the translation of G. A. Jacob's "Manual of Hindu Pantheism, the Vedantasara" (the same library and publishers); and J. Legge's "The Chinese Classics, Part I, Confucius, Part II, Mencius" (new edition, Boston, Houghton, Mifflin & Co.).

In *Physical* and *Natural Science* there is a goodly number of publications, though not many by native authors. Professor C. A. Young's "The Sun" (International Scientific Series, D.

Appleton & Co.) is an able and exhaustive treatise. In the same series Professor J. Le Conte gives a lucid exposition of the principles of monocular and binocular vision, in his volume on "Sight." Dr. B. Peirce discusses very ably, "Ideality in the Physical Sciences" (Boston, Little, Brown & Co.). James Orton, in a new and augmented edition, treats of "Underground Treasures" (Philadelphia, H. C. Baird & Co.), tells how and where to find them, giving thus a key for the ready determination of all the useful minerals within the United States. S. H. Scudder's "Butterflies" (New York, Holt) is a very attractive volume on this subject; it describes the structure of butterflies, their changes and life histories, with special reference to American forms. As of similar character and value are "The Honey-Ants of the Garden of the Gods, and the Occident Ants of the American Plains," by H. C. McCook (Philadelphia, J. B. Lippincott & Co.). J. P. Lesley, in a new and enlarged edition, presents very forcibly "Man's Origin and Destiny, sketched from the Platform of the Physical Sciences" (Boston, G. H. Ellis). In this department American literature owes very much to the works of English and Continental writers republished in the United States. Miss A. B. Buckley's "Life and her Children, Glimpses of Animal Life" (New York, D. Appleton & Co.), is an admirable popular manual; as is also "A World of Wonders" (same publishers), a book for young readers, profusely illustrated. Professor R. A. Proctor's "Poetry of Astronomy" (Philadelphia, Lippincott & Co.) is curiously interesting and suggestive; and A. R. Wallace's "Island Life, or the Phenomena and Causes of Insular Faunas and Floras" (New York, Harper & Brothers), is certainly not less so. In the International Scientific Series there may be noted, as more than ordinarily valuable, Professor H. Morselli's "Suicide, an Essay in Comparative Moral Statistics"; A. Wurtz's "The Atomic Theory" (from the French); and Professor J. W. Judd's "Volcanoes, what they are and what they teach." Charles Darwin makes another valuable contribution to science in his "Formation of Vegetable Mould through the Action of Worms, with Observations on their Habits" (New York, D. Appleton & Co.). Professor James Geikie, in his "Prehistoric Europe" (Philadelphia, Lippincott & Co.), gives a profoundly interesting sketch of the geological condition of Europe in early days; and St. George Mivart presents an elaborate and careful study of back-boned animals, especially mammals, in his volume on "The Cat" (New York, Scribner's Sons). E. B. Tylor's "Anthropology" is one of the best books of the year, and is an admirable introduction to the study of man and civilization (New York, D. Appleton & Co.).

Among works in the *Useful Arts, Technical* works, etc., a few only of the most valuable of the year are here named: Thomas Tredgold's "Elementary Principles of Carpentry" (New York, Spon); W. H. Uhland's "Corliss En-

gines and Applied Steam Motors" (Spon); L. R. Hamersly's "Naval Encyclopædia," and T. Wilhelm's "Military Dictionary and Gazetteer" (Philadelphia, L. R. Hamersly & Co.); E. S. Philbrick's "American Sanitary Engineering" (New York, Sanitary Engineer Office); R. S. Christiani's "Technical Treatise on Soap and Candles" (Philadelphia, H. C. Baird & Co.); J. B. Denton's "Sewage Disposal" (New York, Spon); J. Parry's "Water, its Composition, Collection, and Distribution" (New York, Scribner & Welford); J. Cundall's "Bookbindings—Ancient, Mediæval, and Modern," with plates (Scribner & Welford); G. P. Brown's "Sewer Gas and its Dangers" (Chicago, Jansen, McClurg & Co.); A. Spitzli's "Enlarged Manual for Managers, Designers, and Weavers" (Troy, New York, W. H. Young); T. P. Teale's "Dangers to Health," a pictorial guide to domestic sanitary defects (Philadelphia, Blakiston); and A. J. Downing's pleasant and profitable "Rural Essays" (New York, Worthington).

In *Medical Science* the publications of the year are numerous and valuable. A large portion of these are new and revised editions, or works rewritten under additional light and larger experience. Drs. G. M. Beard and A. D. Rockwell present "Medical and Surgical Uses of Electricity," in a third revised edition (New York, William Wood & Co.). Dr. Austin Flint, Sen., gives a new edition of his "Principles and Practice of Medicine" (Philadelphia, H. C. Lea's Son & Co.), and Dr. A. Flint, Jr., a new edition of the "Text-Book of Human Physiology" (New York, D. Appleton & Co.). Dr. T. S. Kirkbride's "Insanity, and Hospitals for the Insane" (Philadelphia, Lippincott & Co.) appears in a second edition. The second volume of Dr. D. Hayes Agnew's great treatise on "The Principles and Practice of Surgery" (Philadelphia, J. B. Lippincott & Co.) is among the noteworthy books of the year; as is also a translation of Dr. Just Lucas-Championnière's work entitled "Antiseptic Surgery: the Principles, Modes of Application, and Results of the Lister Dressing" (Portland, Maine, Loring, Short & Harmon). The translator and editor of the volume, Dr. F. H. Gerrish, is quite enthusiastic in support of the views set forth in the work. A very interesting and valuable publication is by Dr. R. Bartholow, "On the Antagonism between Medicines and between Remedies and Diseases" (New York, D. Appleton & Co.). Dr. J. Tyson's "Treatise on Bright's Disease and Diabetes, with Special Reference to Pathology and Therapeutics" (Philadelphia, Lindsay & Blakiston) is timely and important; it has also a section on retinitis in Bright's disease, added by Dr. W. F. Norris. Drs. J. B. Bell and W. T. Laird give a new edition of "Homœopathic Therapeutics of Diarrhœa, Dysentery, Cholera," etc. (New York, Boericke & Tafel). Dr. W. A. Hammond has brought out a seventh and revised edition of his work "On the Dis-

eases of the Nervous System" (New York, D. Appleton & Co.). Dr. W. H. Byford's "The Practice of Medicine and Surgery applied to the Diseases and Accidents incident to Women" (Philadelphia, Lindsay & Blakiston) is a work of great value, as revised and largely rewritten. In the same connection comes also Dr. F. A. Purcell's valuable treatise "On Cancer, its Allies and other Tumors, with Special Reference to Treatment" (same publishers). Dr. Bulkley's work on "Eczema and its Management" (New York, Putnam's Sons) is thorough and important, in view of the interest of the faculty in cutaneous disorders at the present time. Other works, which deserve to be mentioned here with approbation, are—Dr. W. T. Lusk's "Science and Art of Midwifery" (New York, D. Appleton & Co.); Dr. H. H. Kane's "Drugs that Enslave," the opium, morphine, and chloral habit (Philadelphia, Blakiston); Dr. R. Glisan's "Modern Midwifery," a text-book of American practice (same publisher); Dr. A. L. Ranney's "The Applied Anatomy of the Nervous System" (New York, D. Appleton & Co.). The same publishers issue "The New York Medical Journal and Obstetrical Review," edited by Dr. F. P. Foster; and F. Leyboldt (New York) sends out the "Index Medicus," a monthly record of medical publications.

American literature is fairly represented in works on *Law and Government*. Codes of the different States, digests, statutes, etc., are increasing in number and value from year to year, and American jurisprudence is assuming high importance in the estimation of foreign civilized nations. The Reports of the Supreme Court of the United States, and of the Supreme Courts and Courts of Appeals of the several States, and the volumes (some thirty in number) containing the "American Decisions" are looked for with great interest, and are of special moment to the educated lawyer. A "Treatise on the Law of Injunctions" by J. I. High (Chicago, Callaghan & Co.), has reached a second edition, and is a work of merit. So, also, is F. A. Lewis's volume, "Law relating to Stocks, Bonds, and other Securities" (Philadelphia, Rees, Welsh & Co.). B. R. Curtis's very valuable work, "Jurisdiction, Practice, and Peculiar Jurisprudence of the Courts of the United States" (Boston, Little, Brown & Co.), has been enriched with notes by G. T. and B. R. Curtis. Of equal, if not superior, value is J. N. Pomeroy's "Treatise on Equity Jurisprudence as administered in the United States" (San Francisco, A. L. Bancroft & Co.). It is adapted for all the States, and to the union of equitable and legal remedies under the reformed procedures. O. W. Holmes, Jr., has written a thoughtful and interesting book entitled "The Common Law" (Boston, Little, Brown & Co.); and the same publishers send out E. L. Pierce's important "Treatise on the Law of Railroads." Professor F. Wharton's "Treatise on the Conflict of Laws" is extremely suggestive, and is in its second edition.

(Philadelphia, Kay & Brothers). J. F. Dillon's "Removal of Causes from State Courts to Federal Courts" (St. Louis, W. H. Stevenson) is supplied with forms adapted to the several acts of Congress, in an enlarged and revised edition. J. C. Hurd's "Theory of our National Existence, as shown by the Action of the Government of the United States since 1861" (Boston, Little, Brown & Co.), commands attention no less from the importance of the subject than the skill and ability with which the author has treated it. Among popular manuals we name a few: F. Crosby's "Everybody's Lawyer and Book of Forms" (Philadelphia, J. E. Potter & Co.); J. G. Lee's "Hand-Book for Coroners," containing a digest of all the laws in the thirty-eight States of the Union (Philadelphia, W. Brotherhead); S. D. Thompson's "Liability of Directors and other Officers and Agents of Corporations" (St. Louis, W. H. Stevenson); "Notaries' and Commissioners' Manual" (New York, Baker, Voorhees & Co.); F. J. Stimson's "Glossary of Technical Terms, Phrases, and Maxims of the Common Law" (Boston, Little, Brown & Co.); and F. F. Heard's "Oddities of the Law" (Boston, Soule & Bugbee).

In *Biography, Memoirs*, and the like, the present year is not less prolific than its predecessors. The Rev. Dr. E. E. Beardsley's "Life and Correspondence of Rev. Samuel Seabury" (first bishop in the Protestant Episcopal Church in the United States) is a valuable contribution to history as well as literature (Boston, Houghton, Mifflin & Co.). J. B. Gough, in his "Sunlight and Shadow" (Hartford, Conn., A. D. Worthington & Co.), gives some interesting gleanings from his life-work in the cause of temperance. Dr. A. Stevens presents, in his "Madame de Staël: A Study of her Life and Times" (New York, Harper & Brothers), a vivid portraiture of the first French Revolution and the First Empire. It is a work of solid merit, as well as of unflagging interest. The same publishers send out J. W. Forney's amusing and instructive "Anecdotes of Public Men." Miss M. A. Lamson's "Life and Education of Laura Dewey Bridgman, the Deaf, Dumb, and Blind Girl," loses none of its interest in a new edition (Boston, Houghton, Mifflin & Co.). R. W. Johnson contributes an admirable "Memoir of Major-General George H. Thomas" (Philadelphia, Lippincott & Co.). After long and careful study, James Parton brings out his elaborate "Life of Voltaire" (Boston, Houghton, Mifflin & Co.). It already takes its place as a standard in this department. General A. Badeau completes, in a third volume, the "Military History of Ulysses S. Grant, from April, 1861, to April, 1865" (New York, D. Appleton & Co.). The substantial merit of the work is recognized on all hands. R. H. Conwell gives a pleasing and useful account of "The Life, Travels, and Literary Career of Bayard Taylor" (Boston, Lothrop). Messrs. J. M. Bundy, in his "The Nation's Hero, in Memo-

riam, Life of James Abram Garfield, Twentieth President of the United States" (New York, Barnes), and J. S. Ogilvie, in his "Life and Death of James A. Garfield, from Tow-path to the White House" (New York, Ogilvie), give popular sketches of the late President, whose cruel murder, and the trial of whose assassin, excited public attention throughout the civilized world.

In the way of republication, numerous works of value are added to American literature. F. W. H. Myers's "William Wordsworth" is one of the most interesting and successful volumes of the series "English Men of Letters" (New York, Harper & Brothers). In the same series, S. Colvin gives a thoughtful study of "Landon" and his works; and Professor D. Masson performs a like service for "De Quincey" and his singularly interesting career. Other serial works show the tendency of biographical literature in 1881. Mrs. Oliphant's "Cervantes," and W. L. Collins's "Butler" (Philadelphia, Lippincott), are valuable contributions to "Foreign and Philosophical Classics for English Readers." F. W. Trollope, the novelist, tries his hand upon a "Life of Cicero," and succeeds very well, all things considered (New York, Harper & Brothers). Mme. De Witt, daughter of the statesman and historian, gives a pleasant narrative of "Monsieur Guizot, in Private Life" (Boston, Estes & Lauriat). Messrs. Shepherd and Williamson furnish the admirers of the Scotch celebrity with "Memoirs of the Life and Writings of Thomas Carlyle," giving personal reminiscences and selections from his private letters (New York, Scribner & Welford). Dr. W. G. Blaikie writes with enthusiasm and force of "The Personal Life of David Livingstone" (New York, Harper & Brothers), and Canon Carus supplies "Memorials of the Rev. Charles Pettit Mcllvaine, Bishop of Ohio" (New York, Whittaker). From the French of Eugene Muntz we have "Raphael, his Life, his Works, and his Times" (New York, A. C. Armstrong & Son), a very elegantly illustrated work.

In this connection we may properly name several other works of merit in the department of literary history and culture: Miss L. E. Poor's "Sanskrit and its Kindred Literatures," being studies in comparative mythology (Boston, Roberts); R. G. White's "American View of the Copyright Question" (New York, Routledge); a new uniform edition of J. R. Lowell's "Complete Works" (Boston, Houghton, Mifflin & Co.); W. Matthews's "Literary Style, and other Essays" (Chicago, S. C. Griggs & Co.); Horace Bushnell's "Literary Varieties," and "Moral Uses of Dark Things" (New York, Scribner's Sons); O. B. Bunce's charming volume, "Bachelor Bluff, his Opinions, Sentiments, and Disputations" (New York, D. Appleton & Co.); Professor M. C. Tyler's "History of American Literature, Colonial Period, 1607-1765" (New York, Putnam's Sons); and new editions of J.

G. Holland's popular prose and poetical works (New York, Scribner's Sons). To these should be added, "The Dhammapada," being one of the canonical books of the Buddhists, translated from Pāli, by F. Max Müller; with others, forming part of the "Sacred Books of the East," translated by various Oriental scholars, and edited by Müller (New York, Macmillan & Co.); from the same publishers, W. Y. Sellar's "Roman Poets of the Republic," and J. Watson's "Kant and his English Critics," being a comparison of critical and empirical philosophy; and, as of special value, Sir G. W. Cox's "Introduction to the Science of Comparative Mythology and Folk Lore" (New York, Holt).

No very important work on *History*, of American authorship, has appeared during 1881. Local histories are numerous and valuable, and outline sketches and books for schools are in abundance. Mr. Bancroft's long-promised volumes, "History of the Formation of the Constitution of the United States," forming a history of the United States from the Treaty of Peace with Great Britain to the Inauguration of Washington, are handed over to the succeeding year. Professor H. Coppée furnishes an interesting and useful "History of the Conquest of Spain by the Arab-Moors" (Boston, Little, Brown & Co.). T. T. Timayenis is author of a "History of Greece, from Earliest Times to the Present," a useful compilation (New York, D. Appleton & Co.). H. C. Lodge gives his countrymen a work of unique interest and value, entitled "A Short History of the English Colonies in America" (New York, Harper & Brothers). R. Blanchard's "Discovery and Conquests of the Northwest" (Chicago, Cushing, Thomas & Co.) occupies a field of great importance; and Jefferson Davis's "Rise and Fall of the Confederate Government" (New York, D. Appleton & Co.) is a work variously estimated as to its value and help toward a right and just settlement of American history. The writer concludes his second volume as follows:

In asserting the right of secession, it has not been my wish to incite to its exercise: I recognize the fact that the war showed it to be impracticable, but this did not prove it to be wrong; and, now that it may not be again attempted, and that the Union may promote the general welfare, it is needful that the truth, the whole truth, should be known, so that crimination and recrimination may for ever cease, and then, on the basis of fraternity and faithful regard for the rights of the States, there may be written on the arch of the Union, *Esto perpetua*.

H. P. Johnston's "The Yorktown Campaign and Surrender of Cornwallis" (New York, Harper & Brothers) is a very carefully prepared narrative, in both good taste and temper. Several volumes on "The Campaigns of the Civil War" are promised; we name two: M. F. Force's "From Fort Henry to Corinth," and J. G. Nicolay's "Outbreak of the Rebellion" (New York, Scribner's Sons). H. Von Holst's elaborate work on "The Constitution

and Political History of the United States," from the German (Chicago, Callaghan), has reached a third volume. It is a work of superior merit. From the veteran worker in American history, B. J. Lossing, we have "Harper's Popular Cyclopædia of United States History," marked by his usual care and industry.

In *Education*, *Language*, etc., there is a goodly supply of native productions, together with about the usual number of reprints. Text-books in the ancient classics, in Hebrew and Oriental tongues, and in modern languages, are quite in abundance, in fact too abundant to specify to any advantage. R. H. Ball's "Elements of Astronomy" (New York, D. Appleton & Co.) is one of a valuable series entitled "Text-Books of Science." The same publishers issue a text-book for normal schools, entitled "Art of School Management." J. Ogden's "Science of Education, or Philosophy of Human Culture" (Cincinnati, Van Antwerp & Co.), is a thoughtful and suggestive publication. Alfred Ayres has issued a companion volume to "The Orthoëpist" of last year, entitled "The Verbalist" (New York, D. Appleton & Co.). It is a capital little volume. J. E. Worcester's "Dictionary of the English Language" (Philadelphia, Lippincott) appears in a new edition, with a valuable supplement. This great work disputes with Webster the place of being "the standard" of the English tongue, and many think successfully. W. H. Payne reprints from the "Encyclopædia Britannica" the valuable article on "Education," entitling it "A Short History of Education," with notes, etc. (Syracuse, New York, C. W. Bardeen); it is interesting and useful to the general reader. L. T. Townsend's "The Art of Speech, Studies in Eloquence and Logic" (New York, D. Appleton & Co.), is a serviceable little work. H. Kiddle and A. J. Schem furnish a useful and valuable "Dictionary of Education" (New York, Steiger), based upon the larger work, "Cyclopædia of Education." J. F. McCurdy's "Aryo-Semitic Speech" (Andover, Massachusetts, W. F. Draper) is a very interesting study in linguistic archæology. Among English books of note in this department are, J. G. Fitch's "Lectures on Teaching, delivered in the University of Cambridge"; and H. Kiepert's "Manual of Ancient Geography," being the authorized translation from the German (New York, Macmillan & Co.).

The interest in *Political Economy* and *Social Science* is fully as great as in any preceding year, and several valuable contributions to this department are the result. G. F. Seward (late American minister to China), in his "Chinese Immigration in its Social and Economical Aspects" (New York, Scribner's Sons), discusses the question which has agitated largely the people on our Pacific coast. It is a timely and valuable publication. Henry George's "Irish Land Question" (New York, D. Appleton & Co.) undertakes to show, with much ability, what this question involves, and how alone it

can be settled. He makes an earnest appeal to the land leagues. Mrs. H. Jackson, in a volume entitled "A Century of Dishonor" (New York, Harper & Brothers), presents a terrible indictment against the United States Government's dealings with some of the Indian tribes. She makes out her case only too well, and causes one's ears to tingle with shame at the unprincipled conduct of our Government in past years toward the aborigines. C. Barnard's "Co-operation as a Business" (New York, Putnam's Sons) discusses, in an able manner, this important element in economic science at the present day. Mrs. D. M. Craik gives "A Woman's Thoughts about Women" (New York, G. Munro), with admirable freshness and point. Herbert Spencer's "Descriptive Sociology, or Groups of Sociological Facts, classified and arranged" (New York, D. Appleton & Co.), is steadily advancing toward completion. No. 7, Division II, Part II, B, treats of the Hebrews and Phœnicians. P. C. Centz's "The Republic of Republics, or American Federal Liberty" (Boston, Little, Brown & Co.), appears in a fourth edition, and is a very able work. Mrs. A. G. Paddock's "The Fate of Madame La Tour, a Tale of Great Salt Lake" (New York, Fords, Howard & Hurlbert), though cast in the form of a novel, yet displays with great force and success what a foul blot and burning disgrace Mormonism and its abominations are in this nineteenth century. W. Hickey's "Constitution of the United States" (Baltimore, J. Murphy & Co.) is a valuable manual of political information, as revised by A. Cummins and brought down to date. F. Martin furnishes "The Statesman's Year-Book" (New York, Macmillan & Co.), containing statistical and historical records of the states of the civilized world for 1881. The same publishers bring out Sir J. B. Phear's "International Trade, and the Relation between Exports and Imports." It is concise, but able and interesting. Thomas Pitt Taswell-Langmead's "English Constitutional History, from the Teutonic Conquest to the Present Time" (Boston, Houghton, Mifflin & Co.), is worthy of mention in this connection. It appears in a second edition, with additions and improvements. From English sources also, we get Luigi Cossa's "Guide to the Study of Political Economy" (New York, Macmillan & Co.); it is translated from the second Italian edition, and is a clear and well-arranged work.

In *Poetry*, the *Drama*, etc., there is little of special moment in the productions of 1881. Hardly anything original or new appears; while compilations and collections of poetry, and new editions of standard poets, American and English, are numerous and excellent. Mrs. D. M. Craik's "Thirty Years" contains "poems new and old," and is a charming volume; H. W. Longfellow appears in the "Seven Voices of Sympathy," selected from his works by Charlotte F. Bates; O. W. Holmes's "Poetical Works" are issued in a new handy-volume

edition; J. G. Whittier presents us with "The King's Missive, and other Poems"; Bayard Taylor's "Home Ballads" keep alive his genial memory; and T. B. Aldrich sends out his "Friar Jerome's Beautiful Book, and other Poems" (all these published by Houghton, Mifflin & Co.). T. Buchanan Read also adds to this list of home productions his pleasing poem, entitled "Brushwood" (Philadelphia, Lippincott & Co.). C. De Kay's "Vision of Nimrod" (New York, D. Appleton & Co.) is an Oriental romance, on the whole very well worked out. The same publishers give us Dr. A. Coles's "The Microcosm, and other Poems." Will Carleton's "Farm Festivals" (New York, Harper & Brothers) is full of interest and instruction. A collection of poems entitled "Green Mountain Poets" (Boston, Lee & Shepard) illustrates very capably the best talent in the Green Mountain State. Dr. P. Schaff and A. Gilman furnish a valuable work, under the title of "Library of Religious Poetry" (New York, Dodd, Mead & Co.). D. R. Locke (P. V. Nasby) makes a new contribution, in his peculiar line, entitled "Hannah Jane" (Boston, Lee & Shepard). H. N. Hudson's "Complete Works of William Shakespeare" (Harvard edition, Boston, Ginn & Heath) is a very admirable exhibition of literary skill, devotion, and ability; this edition takes rank of all others by American hands, in its full and genial life of the poet, its capital notes, its full glossary, etc. A. C. Swinburne's "Mary Stuart," and "Studies in Song" (New York, Worthington) come to us from abroad, as do several other contributions to poetic literature; viz., Jean Ingelow's "Poems" (Boston, Roberts Brothers); F. R. Havergal's "Poems" (New York, E. P. Dutton & Co.); T. H. Ward's "The English Poets, Selections with Critical Introductions by Various Writers, and a General Introduction by Matthew Arnold"; and A. W. Ward's "English Dramatic Literature to the Death of Queen Anne" (New York, Macmillan & Co.).

As a specialty, *Art, the Fine Arts, Music*, etc., occupy a fair space in the literary record of 1881. P. G. Hamerton's "Graphic Art" (New York, J. W. Bouton) appears in a splendid edition; "Art Essays" No. 2, "Modern Schools of Art, American and European" (New York, Barnes), are from the same author. Mrs. C. E. Clement's "Hand-Book of Legendary and Mythological Art"; "Painters, Sculptors, Architects, Engravers, and their Works" (Boston, Houghton, Mifflin & Co.), appear in new editions. C. C. Abbott furnishes a very interesting and useful work, entitled "Primitive Industry, or Illustrations of the Handiwork in Stone, Bone, and Clay, of the Native Races of the Northern Atlantic Seaboard of America" (Salem, Massachusetts, G. A. Bates). Julia B. De Forest supplies an excellent "Short History of Art" (Dodd, Mead & Co.); and the same publishers issue the standard work of Wilhelm Lübke, "Outlines of the History of

Art," being a new translation from the seventh German edition, edited with notes by Clarence Cook. S. G. W. Benjamin gives a very readable account of "Our American Artists" (Boston, Lothrop), including painters, sculptors, etc. A pleasant volume, by Mrs. J. A. Shedd, is entitled "Famous Painters and Paintings" (Boston, Osgood & Co.), and appears in a third edition, revised and enlarged. President Bascom's "Æsthetics, or the Science of Beauty," is timely and suggestive. Of works from English and Continental sources a few are here named: A. S. Murray's "History of Greek Sculpture, from the Earliest Times down to the Age of Phidias" (New York, Scribner & Welford); E. E. Viollet-le-Duc's "Discourses on Architecture," from the French (Boston, Osgood & Co.); G. G. Scott's "Essay on the History of English Church Architecture prior to the Separation of England from the Roman Obedience" (New York, Scribner & Welford); J. Von Falke's "Greece and Rome, their Life and Art" (New York, Holt); M. B. Huish's "The Year's Art, 1881" (New York, Macmillan & Co.), being an epitome of all matters relating to painting, sculpture, etc., during 1880, in the United Kingdom; and R. Schumann's "Music and Musicians, Essays and Criticisms" (New York, E. Schuberth & Co.).

Works of *Travel, Description, and Adventure* are unusually numerous and valuable this year. W. H. Gilder's "Schwatka's Search, Sledging in the Arctic in quest of the Franklin Records" (New York, Scribner's Sons), is intensely interesting, and very suggestive in connection with that strangely infatuating desire men have to reach the north pole. Paul du Chaillu's "The Land of the Midnight Sun" (New York, Harper & Brothers) is even more full of interest and profitable instruction, as relating to a land and people worthy of the commendation Du Chaillu bestows upon them. J. L. Hayes's "Pictures of Arctic Travel" (New York, Carleton) deserve mention in this connection. Miss Isabella Bird's "Unbeaten Tracks in Japan" (New York, Putnam's Sons) gives, in a third edition, a graphic account of her travels in the interior, including visits to the aborigines of Yezo and Isé; and W. A. P. Martin, in a compact and carefully prepared volume, describes "The Chinese, their Education, Philosophy, and Letters." Two of the most attractive and valuable works on "the Dark Continent" appear in translations, viz., Emil Holub's "Seven Years in South Africa: Travels, Researches, and Hunting Adventures between the Diamond-fields and the Zambesi, 1872-'79" (Boston, Houghton, Mifflin & Co.); and Alexander da Serpa Pinto's "How I crossed Africa; from the Atlantic to the Indian Ocean through Unknown Countries, and Discovery of the Great Zambesi Affluents" (Philadelphia, Lippincott & Co.). To these add L. M. D'Alberty's "New Guinea, what I did and what I saw" (Boston, Houghton, Mifflin & Co.); R. S. Watson's "Visit to

Wazan, the Sacred City of Morocco" (New York, Macmillan & Co.); and L. Oliphant's "The Land of Gilead, with Excursions in the Lebanon" (New York, D. Appleton & Co.). The same publishers are issuing "Picturesque Palestine," with an introduction by Dean Stanley, and descriptive matter from eminent Palestine scholars and explorers. Parts one to twenty are published. D. C. Poole's "Among the Sioux of Dakota" furnishes a very instructive account of eighteen months' experience as an Indian agent (New York, Van Nostrand). Lady Duffus Hardy's "Through Cities and Prairie Lands" (New York, Worthington) is an attractive volume. J. Hatton's "To-day in America" (New York, Harper & Brothers) contains some capital studies for the Old World and the New; and A. E. Silliman, in his "Gallop among American Scenery" (New York, Barnes), gives numerous lively sketches of American scenes and military adventure. As a return compliment for our English cousins' visits and remarks, Grant White deals most effectively with the subject in his "England Without and Within" (Boston, Houghton, Mifflin & Co.). S. A. Drake's "The Heart of the White Mountains" (New York, Harper & Brothers) is replete with interesting and valuable matter. E. de Amicis's "Spain and the Spaniards," from the Italian (New York, Putnam's Sons), is a book of rare merit; and the historian E. A. Freeman's "Sketches from the Subject and Neighbor Lands of Venice" (New York, Macmillan & Co.) are marked by all the author's well-known scholarship and ability.

Juvenile books are very numerous this year, and many of them are unusually excellent and appropriate. We name only a few: "The Golden Book of Tales," selected and edited by Messrs. W. Swinton and G. R. Cathcart (New York, Iverson & Co.), is a most charming volume, and contains a choice collection of holiday readings for boys and girls. Of similar character and interest are, H. E. Scudder's "The Children's Book, a Collection of the Best and Most Famous Stories and Poems in the English Language" (Boston, Houghton, Mifflin & Co.); "Our Little Ones," and "Young Folks at Home," by W. T. Adams (Boston, Lothrop), containing illustrated stories and poems; Mrs. H. B. Stowe's "Queer Little People" and other volumes of stories (New York, Fords); and S. A. Drake's "Around the Hub," a boys' book about Boston (Boston, Roberts). T. W. Knox's "The Boy Travelers in the Far East" (New York, Harper & Brothers) is a thrilling narrative of the adventures of two youths in a journey to Ceylon and India, with a description of Borneo, the Philippine Islands, and Burmah. W. Hauff's "Arabian Days' Entertainment" (Boston, Houghton, Mifflin & Co.), and "Tales of the Caravan, Inn, and Palace," both from the German (Chicago, Jansen, McClurg & Co.), are well worth reading; and Mme. Guizot de Witt's "Tales of Three Centuries," from the French

(Boston, J. Bradley & Co.), deserve the highest praise. In the same connection may be named J. R. Gardiner's "English History for Young Folks, B. O. 55-A. D. 1880," in a revised edition for American students (New York, Holt). J. Otis's "Toby Tyler, or Ten Weeks with a Circus," and W. L. Alden's "Cruise of the Ghost" (New York, Harper & Brothers), are first-rate stories for boys. Miss L. E. Guernsey's "The Foster Sisters, or Lucy Corbet's Chronicle" (New York, Whittaker), is one of the best stories of the year for both boys and girls.

The literature of *Fiction*, as a comparison with last year shows, is as attractive as ever, and the supply keeps pace with the demand. American authors, too, hold their own in this department, and divide the honors with English and Continental writers. As productions of this kind number by the hundreds, it is of course impossible to do more than give a glance at a few of the noteworthy novels and stories of 1881. Henry James's "The Portrait of a Lady" (Boston, Houghton, Mifflin & Co.) is much admired, and also much criticised. Mrs. F. H. Burnett's "A Fair Barbarian" well sustains the writer's reputation (Boston, Osgood & Co.). The same publishers issue Miss R. T. Cooke's "Somebody's Neighbors," and W. D. Howells's "Dr. Breen's Practice," and "A Fearful Responsibility," each very effective in its way. Miss L. M. Alcott's "Little Women" series (Boston, Roberts Brothers), comprising eight volumes, appears in a new edition, and maintains its high place in American fiction. Rev. W. Baker's "Blessed Saint Certainty" (Boston, Roberts Brothers) graphically presents scenes and characters from frontier life; and "Cape Cod Folks," by Miss McLean (Boston, Williams & Co.), is really unique, and in some respects the best novel of the year. "The Bloody Chasm," by J. W. De Forest, and "Wild Work, the Story of the Red River Tragedy," by Mary E. Bryan (New York, D. Appleton & Co.), are pictures of American manners and events, and are full of exciting interest. E. P. Roe's "Without a Home" (New York, Dodd, Mead & Co.) is, like all his stories, written with a distinct purpose, and points out the terribly pernicious effects of the opium-habit.

A large number of novels by English writers are, as usual, republished in the United States. George MacDonald, a writer of rare power as an analyst and portrayer of character, furnishes this year "Mary Marston" (D. Appleton & Co.) and "Warlock O'Glenwarlock" (New York, Harper & Brothers). From the latter house also are sent out W. Besant and J. Rice's "Chaplain of the Fleet," a curiously interesting story of the condition of matters a hundred years ago in a well-known district in London; W. Black's "Sunrise" and "The Beautiful Wretch," both sustaining his well-earned reputation as a novelist; and R. D. Blackmore's "Christowell," a story of unusual power. W.

W. Mallock writes "A Romance of the Nineteenth Century," and in it presents a strikingly realistic picture of existing social conditions; Mrs. K. S. Macquoid gives a pleasing story in "Esau Runswick"; and D. C. Murray presents us with a somewhat singular production entitled "Joseph's Coat" (these published by Putnam's Sons).

Translations of works of fiction are very numerous. Victor Cherbuliez's "Saints and Sinners" (*Noirs et Rouges*) is a capital specimen of French life and manners (New York, D. Appleton & Co.); so also is André Theuriot's "All Alone"; F. Spielhagen's "Lady Clara Vere de Vere" well represents the popular German style of novel (same publishers). The "Spanish Fairy Tales" of Fernan Caballero are presented in a capital rendering into English by J. H. Ingram; Mrs. A. L. Wister translates from the German "The Eichoffs" of Von Reichenbach, and "Severa," a novel of E. Hartner's (Philadelphia, Lippincott & Co.). H. H. Boyesen's "Queen Titania" and "Tales of Two Hemispheres" (New York, Scribner's Sons) are stories of real merit. Professor R. B. Anderson has translated, with the approval of the author, Björnson's delightful "Synnöve Solbakken," "Arne," and "A Happy Boy" (Boston, Houghton, Mifflin & Co.). The same scholar gives us, from the Icelandic, the Viking Tales of the North, i. e., "The Sagas of Thorstein, Viking's Son, and Fridthjof the Bold" (Chicago, S. C. Griggs & Co.). George Ebers's "Uarda, a Romance of Ancient Egypt," is a singularly striking production, carrying one back into hoar antiquity. Jules Verne, one of the most industrious and useful writers of our day, gives us "The Steam House, Part I, The Demon of Cawnpore," and "Part II, Tigers and Traitors" (New York, Scribner's Sons). From the French also comes "A Nihilist Princess," by M. L. Gagneur (Chicago, Jansen, McClurg & Co.), and A. de Lamartine's "Graziella, a Story of Italian Love," new edition (same publishers).

LITERATURE, BRITISH, IN 1881. Literature in Great Britain, in 1881, does not display equal activity with American literature during the same period. As we have shown on a previous page, literature in the United States is steadily increasing in almost every department of knowledge, there being about one thousand more books noted in "The Publishers' Weekly" for 1881 than for the year 1880. In England, however, according to "The London Publishers' Circular," there is a marked falling off, seeing that three hundred volumes less are recorded as being published in 1881 than in 1880. This decrease is attributed mainly to the great development of the periodical press, and the immense increase in the number and variety of daily, weekly, and monthly papers and magazines. No doubt, there is force in this statement, and we give it for what it is worth. At the same time it is worthy of note that this very cause, operating

in this country, if it has been effective at all, has produced a directly contrary result. In certain departments, such as science, travel and adventure, fiction, British literature seems to be as active as ever; and there is little or no diminution in works devoted to the discussion of critical and crucial questions of the day.

In *theological and religious* literature there is not much of moment to be noted. The Rev. T. K. Cheyne, in his "The Prophecies of Isaiah" (London, C. Kegan Paul & Co.), gives a new translation, together with a commentary and appendices. Mr. Cheyne is a follower of Ewald, the famous German critic, and has made the writings of Isaiah his special study. Dr. E. H. Plumptre contributes to the useful series, "The Cambridge Bible for Schools," a volume on "Ecclesiastes, or the Preacher." It is a charming work, replete with scholarship and high literary culture. The last two volumes of "The Speaker's Commentary on the New Testament" (London, John Murray), edited by Canon F. C. Cook, quite sustain the reputation of the preceding volumes. Some of the ablest talent and learning of the English Church finds place in this now completed work. Dr. W. Milligan, Professor in the University of Aberdeen, is author of a very valuable work on "The Resurrection of our Lord" (Macmillan & Co.). It ranks among the best productions of the year. "The New Testament in the Original Greek," vol. i, Text; vol. ii, Introduction and Appendix (Macmillan & Co.), we have before alluded to, in connection with the revised version of the New Testament. The service which Drs. Westcott and Hort have here rendered to the best interests of biblical learning and criticism is beyond all praise. Under the title "Everlasting Punishment," being lectures delivered in London, Dean E. M. Goulburn furnishes a very timely and weighty contribution to the question which Canon Farrar, Dr. Pusey, and others have been discussing of late years. The second edition (London, Rivingtons) is revised and enlarged. Canon H. M. Luckok's "Studies in the History of the Book of Common Prayer" (Rivingtons) exhibits excellent scholarship and ability. It is a volume of superior merit on this topic. "The Old Testament in the Jewish Church" (Edinburgh, A. & C. Black) is the title of W. Robertson Smith's somewhat famous lectures on biblical criticism. These lectures are well known in America, and are variously esteemed by students of the orthodox or more liberal denominations. In this connection it should be stated that Dr. Littledale's "Plain Reasons against joining the Church of Rome" (Christian Knowledge Society) was found to be so severe and telling adversely to the Roman claims and assumptions, that it was necessary to provide an answer. This is supplied by Father Ryder, of the Oratory, in a small volume like Littledale's, entitled "Catholic Controversy: a Reply to Dr. Littledale's Plain Reasons" (London, Burns & Oates). It is acute

and able. Dr. J. Cairns's "Unbelief in the Eighteenth Century" (Edinburgh, Black) is a volume of moderate size, and is, on the whole, a useful if not very profound contribution to apologetics at the present day.

In *History* there are no special triumphs to record, no works of any great importance having appeared. Professor G. Rawlinson's "History of Ancient Egypt" (Longmans) is a work of real value, and forms a fitting companion to his most important production, "The Five Great Monarchies of the Ancient World." J. A. Froude's "English in Ireland" (Longmans) appears in a new edition, to which Mr. F. has appended a concluding chapter dealing with Irish politics in the present day. "Letters and Papers, Foreign and Domestic, of the Reign of Henry VIII," vol. v, arranged and catalogued by James Gairdner (Longmans), form a part of the valuable series of state papers begun by the late Dr. Brewer, Master of the Rolls. The present volume is admirably arranged and edited. Similar in character is the "Calendar of State Papers," relating to Ireland in the reign of James I, edited by Dr. C. M. Russell and J. P. Prendergast. F. W. Longman, in his "Epochs of History," gives a very readable and carefully prepared account of "Frederick the Great and the Seven Years' War." The Hakluyt Society sends out, as its latest issue, Father F. Alvarez's "Narrative of the Portuguese Embassy to Abyssinia during the Years 1520-27." It is translated by Lord Stanley of Alderley, and is an excellent addition to material for history. S. R. Gardiner and J. B. Mullinger, in their "Introduction to English History" (C. Kegan Paul & Co.), show forth the best fruits of sound judgment, scrupulous accuracy, and strict impartiality. The list of authorities is particularly valuable. In this connection E. A. Freeman's "Historical Geography of Europe" (Longmans) deserves special mention. It is worthy of his high reputation, and is a positive gain to historical and political science. The volume of maps accompanying adds not a little to the value and interest of the work. The first volume of C. A. Fyffe's "History of Modern Europe" begins at the outbreak of the Revolutionary War, in 1792, and extends to the accession of Louis XVIII, in 1814. It is a vigorous and brilliant sketch, and promises well for the character and value of the volumes yet to come.

The *Biography* of the year is, as in previous years, varied and unusually full. John Morley, in his "Life of Richard Cobden" (Chapman & Hall), has furnished a very satisfactory memoir of the statesman, and made also an excellent addition to contemporaneous history and politics. Mrs. Harcastle writes a life of her father, "John, Lord Campbell" (John Murray), being a selection from his autobiography, diary, and letters. It is a work of real merit. P. Fitzgerald's "Life of George IV" (Tinsley Brothers) gives pretty fully that

monarch's letters and opinions, and goes quite at large into a view of the men, manners, and politics of his reign. The subject of the memoir is of so unsavory a reputation that it is a matter of regret to find so much time and labor expended in preparing an account of his life and excesses. Living statesmen appear in Barnett Smith's "Life and Speeches of the Rt. Hon. John Bright, M. P." (Hodder & Stoughton). This, like his previous work, "Life of W. E. Gladstone," is a valuable and timely production. An interesting contribution to biographical literature is the third and concluding volume of "The Letters of Charles Dickens" (Chapman & Hall). Professor E. H. Palmer does excellent service in giving anew an account of the Caliph "Haroun Alraschid," of "Arabian Nights" notoriety (Marcus Ward & Co.). Numerous biographies of noted philosophers are among the valuable productions of the year. Professor Mahaffy's "Descartes" (Blackwood & Sons) is one of the best of these. To the series in which it appears, "Philosophical Classics for English Readers," belong "Bishop Butler," by W. L. Collins, and "Bishop Berkeley," by Professor Fraser. Both are useful and well done. In another series, "English Philosophers" (Sampson, Low & Co.), appear "Sir William Hamilton," by Professor W. H. S. Monck; "Adam Smith," by J. A. Farrer; "Hartley and James Mill," by G. S. Bower; and "Bacon," by Professor Fowler, the last being an unusually careful and satisfactory work. Valuable additions also are made to "English Men of Letters," in the volumes of this year, viz., G. Saintsbury's "Dryden"; F. W. H. Myers's "Wordsworth"; Professor S. Colvin's "Landor"; and Professor Masson's "De Quincey" (Macmillan & Co.). Nearly everything valuable in the department of biography is republished in the United States, and forms a part of American as well as British literature.

In the line of *Travel and Adventure* English men and women have shown themselves to be quite as active, daring, and persevering as their transatlantic cousins. Lady Anna Blunt gives "A Pilgrimage to Nejd, the Cradle of the Arab Race," etc. (Murray), a very interesting and instructive narrative of personal experiences and keen, shrewd observation. "To the Central African Lakes and Back" (Sampson, Low & Co.), by Joseph Thomson, is a well-told story, of both great interest in itself and also of superior value for enlarging our knowledge of the geography of Africa. G. B. Hill's volume, "Colonel Gordon in Central Africa, 1874-'79" (De La Rue & Co.), is a fitting tribute to a distinguished philanthropist and traveler in the dark regions of the world. One of the most amusing books of adventure in the year's list is T. F. Keane's "Six Months in Mecca" (Tinsley Brothers). The writer is a young Englishman, who took the name of Hajj Mohammed Amin, passed himself off as a believer, and enjoyed rare opportunities for

seeing and hearing, under circumstances where no avowed Christian would be tolerated for a moment. The same writer's "My Journey to Medinah" is equally amusing, and displays an energy, *sang-froid*, and power of description that are almost irresistible. W. F. Rae, in his "Newfoundland to Manitoba" (Sampson, Low & Co.), furnishes a useful and attractive "Guide through Canada's Maritime, Mining, and Prairie Provinces." The accompanying maps and illustrations increase its value. Joseph Hatton's "To-Day in America" (Chapman & Hall) is lively and entertaining, as showing an intelligent Englishman's views of matters and things in the New World. Baron A. E. von Norden-skiöld's "The Voyage of the Vega round Asia and Europe" (Macmillan & Co.), translated by Alexander Leslie, furnishes the English reader with the valuable results of the famous Swedish navigator's labors in behalf of the literature of travel and discovery. The engraved portraits, the very numerous illustrations, the maps, etc., render these two volumes as unique as they are serviceable. The Hon. H. N. Shore's "The Flight of the Lapwing" (Longmans) is an account of a naval officer's jottings in China, Formosa, and Japan. It is a somewhat amusing book, but hardly anything more.

Under the general designation *Language* and its relations we find about the usual activity displayed. The first volume of "The Imperial Dictionary of the English Language, a Complete Encyclopædic Lexicon, Literary, Scientific, and Technological" (Blackie & Son), by John Ogilvie, LL. D., edited and enlarged by O. Annandale, M. A., appears somewhat late in the year. The remaining three volumes are promised in the course of 1882. So far as it has gone it is a work of real merit and value in English lexicography. Philology is much enriched by "An English-Arabic Lexicon" (C. Kegan Paul & Co.), by G. P. Badger, D. C. L. It is a work greatly superior to any previous attempt in this direction, and bids fair to remain a standard for many years to come. Professor Jowett's "Thucydides," translated into English, with introduction, marginal analysis, notes, and indices (Macmillan & Co.), is an admirable companion to his previous work, the translation of Plato, and will make the great Attic historian better understood and appreciated than heretofore. In the same class of works is F. H. Peters's "Nichomachean Ethics of Aristotle" (C. Kegan Paul & Co.); the translation as a whole is remarkably well executed. Max Müller's "Selected Essays on Language, Mythology, and Religion" (Longmans) are among the choicest of his previous published essays in the four volumes called "Chips from a German Workshop." The present volume is full of interest and instruction. The first volume of a "Dictionary of the Anonymous and Pseudonymous Literature of Great Britain," by two Scotch scholars, Messrs. Halkett and Laing (Edinburgh, Paterson),

makes its appearance at the close of the year. It extends from A to the end of E, and promises to be a very useful addition to works on this subject. Professor Dowden has made a more than ordinarily valuable contribution to the intelligent appreciation of the great dramatist, in his "Shakspere, a Critical Study of his Mind and Art." It is a volume, though not large, of sterling merit.

As usual, *Science* attracts thought and attention to a large extent. Although no specially great work has been accomplished, yet there is no diminution of zeal and perseverance in devotion to its interests and advancement. Dr. James Geikie's "Prehistoric Europe, a Geological Sketch" (Stanford), is a carefully prepared work on the geological and other changes which Europe has undergone since the period treated of by the author in his "Great Ice Age." A "Text-Book of Systematic Mineralogy," by Hilary Bauerman (Longmans), is an admirable little volume on this subject, forming a practical guide to students.

In the "International Scientific Series" James Sully gives an interesting volume entitled "Illusions" (Paul, Trench & Co.). Its value to a scientific treatment of psychology is very considerable. H. Helmholtz's "Popular Lectures on Scientific Subjects" (Longmans), translated by Dr. Atkinson, contains some curious and useful matter. The American reprint (D. Appleton & Co.) has an introduction by Professor Tyndall. Joseph Parry's "Water, its Composition, Collection, and Distribution" (Warne & Co.), is, what it professes to be, "a practical hand-book for domestic and general uses." The author has brought together excellent data for considering and acting rightly upon this important topic. One of the most important works of the year is Henry Watts's "Dictionary of Chemistry and the Allied Branches of other Sciences" (Longmans). It originated in Dr. Ure's "Dictionary of Chemistry and Mineralogy," and is the outcome of nearly twenty years of labor to bring it to completion. In these five volumes and three supplements (equal, in fact, to nine volumes) there is furnished a complete history of the science down to the latest point of time. From the same publishers we have Dr. Ure's "Dictionary of Arts, Manufactures, and Mines," edited by Robert Hunt, a standard work on the important topics to which it is devoted (D. Appleton & Co., New York, keep this work in sets, 4 vols., illustrated with 2,550 wood-engravings, price \$40). Dr. J. Rosenthal's "General Physiology of Muscles and Nerves"; Adam Wurtz's "The Atomic Theory," translated from the French; and the new revised edition of Dr. Felix von Niemeyer's "Text-Book of Practical Medicine," translated from the German, are deserving of mention in this connection, as part of the scientific outcome of 1881. Louis Geiger, in his "Development of the Human Race" (Trübner & Co.), shows how to connect physiology and anthropology,

although the work as a whole can not be pronounced to be of any great weight. The second volume of Dr. F. M. Balfour's "Treatise on Comparative Embryology" (Macmillan & Co.) concludes a very laborious and learned work. The writer is a thorough Darwinian, and endeavors to bring all his facts into relation with the hypothesis of evolution and the survival of the fittest in the struggle for existence. Of lighter material, though not without real interest and value, is Elisée Reclus's "The History of a Mountain" (Sampson, Low & Co.), translated from the French. To this may be added J. A. Harvie-Brown's "History of the Squirrel in Great Britain" (Edinburgh, McFarlane), an interesting and useful work, relating mainly to the squirrel in Scotland. Charles Darwin's latest contribution to science, "Formation of Vegetable Mould through the Action of Worms," is noticed on a previous page, among reprints (D. Appleton & Co.).

Passing from science to *Poetry*, the latter is of small account in British literature in 1881. A. C. Swinburne's "Studies in Song" (Chatto & Windus) appeared early in the year. At its close, he published "Mary Stuart, a Tragedy." This poet, being a legitimate successor of Shelley, has a reputation of a lofty kind with a certain large body of readers. The present poem completes the trilogy (with "Chastelard" and "Bothwell") which the author began many years ago. It is dedicated to Victor Hugo, whom Swinburne calls his "beloved and revered master." D. G. Rossetti sends forth a volume entitled "Ballads and Sonnets" (Ellis & White) which is quite worthy of his well-deserved reputation. Miss C. G. Rossetti presents us with "A Pageant and other Poems" (Macmillan & Co.), which is a charming illustration of beautiful allegory and excellent skill in that difficult kind of poetry, the sonnet. Tennyson's "Ballads and other Poems," together with occasional short pieces in literary journals, are all that he has done for poetry in 1881. Browning and Morris have produced nothing of note this year. An interesting and well-executed volume is "English Odes," selected by E. W. Gosse (C. Kegan Paul & Co.). The selection includes, of course, magnificent odes from Spenser, Milton, Dryden, Coleridge, Wordsworth, Keats, etc. T. H. Ward's "The English Poets," with critical introductions, etc. (Macmillan & Co.), are noted on a previous page, in connection with American literature. They are admirably edited.

Works on *Art*, in its larger sense, are sufficiently numerous to show the general interest existing in this department of literary culture and enjoyment. A useful handy book, by M. B. Huish, is entitled "The Year's Art" (Macmillan & Co.); it contains a large amount of important and valuable matter for all concerned in English art and artists. The series, "Great Artists" (Sampson, Low & Co.), contains, in the last four volumes published, biographies, with illustrations, of Fra Angelico, Ve-

lasquez, Gainsborough, Constable, and Sir D. Wilkie. The biographies are by different hands, and of diverse merit; but, as a whole, the series seems likely to be of permanent interest and value. Professor S. Colvin translates and edits Drs. Woltmann and Woermann's "History of Painting" (C. Kegan Paul & Co.). The first volume gives a comprehensive account of the early efforts of Christian painters and their forerunners in Egypt, Asia, Greece, and Rome. The second volume is to deal with their successors in the Renaissance. Messrs. Audsley and Bowes furnish a charming book on a subject just now of much popular interest; its title is "Keramic Art of Japan" (Sotheman & Co.). It is a very handsome volume, as well as a work of solid value. "Architecture, Gothic and Renaissance," by T. R. Smith (Sampson, Low & Co.), is one of a series of popular treatises on this subject. It is clear, simple, and excellently well done. The Rev. R. St. John Tyrwhitt's "Greek and Gothic Progress and Decay in the three Arts of Architecture, Sculpture, and Painting" (W. Smith), is a book of real merit, and may be consulted by students and general readers to advantage. The writer's ability, taste, and learning are abundantly evident throughout the volume. In regard to music, there is "A Dictionary of Music and Musicians," by eminent writers, English and foreign, edited by George Grove, D.C.L., vols. i and ii (Macmillan & Co.), to be completed in three volumes. This is rightly considered to be a work of great value and excellence. It is well digested, candid, and thorough in its treatment of the subject-matter in hand; and it combines instruction and amusement in a capital manner. Numerous art text-books and art hand-books are published, and valuable illustrated biographies of the great artists and the great musicians are the product of the year. "The Magazine of Art" (Cassell & Co.) and "The Art Journal" (Virtue & Co.) continue to appear at regular intervals. They are rightly regarded as exercising a wide-spread and beneficial influence in behalf of art. H. S. Edwards's "The Lyrical Drama, Essays on Subjects, Composers, and Executants of Modern Opera" (Allen & Co.), is a very readable work, and contains much useful and interesting information. "The Great Musicians" (Sampson, Low & Co.) is the title of a collection of biographies, from the German of Wagner, Weber, Schubert, Rossini and his school. They are carefully prepared, and well calculated to meet the popular demand for condensed rather than expanded lives of distinguished men and women. "Dictionary of Musical Terms," by Messrs. Stainer and Barrett (Novello & Co.), in its present abridged form, is very useful for students and others interested in music.

The sciences of *Law* and *Medicine* display about the usual activity this year. Most of the publications in the former relate rather to local and occasional matters, or to points in

which her Majesty's subjects are specially concerned. No work of great moment has appeared devoted to topics of larger or extra-national interests. Medicine, as in past years, has its earnest and able body of students and workers in behalf of suffering humanity. It is needless to attempt to enumerate here works in this department. A few are named on a previous page, under the general head of science.

In *Fiction* the product of the year 1881 is very large. Generally it is of a good, respectable quality, some of it very superior, though, at the same time, it must be admitted that a great deal of poor, even worthless matter, finds its way into print. The amount of production keeps pace with the demand, and the appetite of readers for this kind of gratification seems to increase from year to year. The older writers share, to a greater or less extent, in this fondness of the public for fictitious and exciting literature. New editions of Scott, Miss Austen, Bulwer, Marryat, Thackeray, Dickens, etc., are called for; but it hardly admits of doubt that the crowd of new aspirants for honors and success in this field will be disappointed in any expectation of taking the place held by authors belonging to former generations. The conservative character of British ways of doing things manifests itself in the clinging to the fashion of publishing novels in three volumes, at corresponding cost; but there is evidence to show that the demand for cheap issues is making itself heard and felt. Probably it will not be long before the practice, now so common in America, of cheap republication of all kinds of books will come into vogue in England. The re-issue of Lady Brassey's "Voyage in the Sunbeam" (Longmans), at the marvelously low price of sixpence, is significant in this connection; also, "The Ingoldsby Legends" at the same price, illustrated (Bentley & Son). "The Autobiography of Mark Ruthenford, Dissenting Minister" (Trübner & Co.), is powerfully written, but rather sad and gloomy in its tone. It undertakes to discuss several of the deep and perplexing questions of human life and destiny, and delineates the struggles of a soul attacked by unbelief and despair, or, as the writer phrases it, "perplexed by many problems I have never solved, disturbed by many difficulties I have never surmounted, and blotted by ignoble conceptions which are a constant regret." Anthony Trollope, in his "Dr. Wortle's School" (Chapman & Hall), and "Ayala's Angel" (same publishers), maintains his reputation for storytelling. The books named are amusing, ingenious, moderately exciting, and not deficient in skill and ability. "The New Virginians" (Blackwood) is of trifling merit as a novel; its main purpose seems to be to give vent to the writer's dislike of the North compared with the South of our country. Miss E. F. Poynter's "Among the Hills" (Hurst & Blackett) is a fair specimen of the every-day novel: it is worth reading, if one has nothing better to do,

which is about all that need be said. "A Romance of the Nineteenth Century," by W. H. Mallock (Chatto & Windus), deserves censure at the hands of all decent, cleanly-minded persons. It is a book which abounds with a peculiarly unpleasant mixture of devoutness and the world and the flesh and the devil. In contrast with books like this stands Miss Jean Ingelow's "Don John," a capital story, well told, and healthful in its tone and spirit. Miss Jessie Fothergill contributes two new books to the hundreds of novels of the year, "Made or Marred?" and "One of Three" (Bentley & Son). Though not equal, perhaps, to her first venture in authorship, they are well worth reading, and sound in manners and moral teaching. To these may be added "Kith and Kin," by the same writer, published toward the close of the year. "The Comet of a Season," by Justin McCarthy (Chatto & Windus), is a pleasant, clever story. It may not increase his reputation, but it certainly does him no discredit. Thomas Hardy's "Laodicean" (Sampson, Low & Co.) is after the author's usual type, interesting enough as a story, and evincing considerable power in depicting and analyzing character. Mrs. J. H. Riddell's "The Senior Partner" (Bentley & Son) is a book of more than average merit, considering the usual quality of the novels of the year. "Sunrise" and "The Beautiful Wretch, and other Stories" (Macmillan & Co.), are William Black's contributions to fiction during 1881. It is only necessary to say that the writer sustains himself well in both these novels, although, on the whole, the latter is superior to the former in strength of purpose and development of character. W. Besant and J. Rice (who are pretty well known as writing together) are authors of "The Chaplain of the Fleet" (Chatto & Windus). It is a remarkably well-put-together book, and tells a curious story of manners and customs of the eighteenth century. It is one of the best novels of the year.

Juveniles, as usual, especially at the holiday season, are numerous, and many of them very excellent. The Society for Promoting Christian Knowledge sends out its regular quota, and publishing houses are active in supplying the demand for good as well as elegant books for the young people. In tone and spirit most of the juveniles of the year are deserving of high praise.

LITERATURE, CONTINENTAL, IN 1881.
BELGIUM.—No branch of study is so much cultivated in Belgium as national history. The last numbers of the "Bibliotheca Belgica" contain studies on two Flemish juriconsults, Philippe Wielant (sixteenth century) and Josse de Damhoudere (seventeenth century); on the Jesuit historian Strada; and on the apostle of toleration in the Low Countries of the sixteenth century, Coornhert of Amsterdam. M. Edmond Vanderstraeten has at length published the second volume of his "Histoire du Théâtre Villageois en Flandre," a history of the intel-

lect, literature, and art of the Flemish rural classes. "La Belgique Illustrée" is continued, notwithstanding the death of Professor Eug. van Bommel, the editor. Hainault and the provinces of Namur and Liège have appeared this year.

M. Decamps has published an interesting work on "L'Industrie Houillère dans le Bassin de Mons" (Hainault); MM. Bruneel and Braun a technical account of the nautical arrangements, old and new, of the town of Ghent. The late Danish doctor Estrup has left a work on the memoirs of the Pope's legate Onufrius. A "Catalogue du Musée Plantin," at Antwerp, has been compiled by M. Max Rooses, the curator. Concerning the present time, the second and third volumes of the documents relative to the cessation of all diplomatic intercourse between Belgium and the Vatican have been issued.

Colonel Cruyplants has published some interesting "Souvenirs d'un Volontaire de 1830." Hendrik Conscience has published an Academical lecture on the history and tendencies of Flemish literature; and his colleague in the Academy, Louis Hymans, traced the literary movement since 1830. In "Cinquante Ans de Liberté" Ch. and E. Lagrange and Gilkinet have written a history of science in Belgium during the last fifty years.

Félix Plateau has published a "Traité de Zoologie," and Mourlon a "Géologie de la Belgique." General Brialmont has printed two volumes on the "Tactique de Combat des Trois Armes." J. C. Houzeau and Lancaster have undertaken a "Bibliographie Générale de l'Astronomie." "Les Accidents," by Dr. C. A. Fredericq, is a popular treatise.

Adolphe de Ceuleneer has commented on a military edict of Trajan recently discovered in the bed of the Meuse. In "Le Berceau des Aryas" the Jesuit father Vander Gheyn has written a chapter on historical geography, founded on the comparison of languages. Henri Pirenne has a dissertation on a singular writer of the middle ages, Sedulius Scotus.

Since the King of the Belgians placed himself at the head of the European exploration of Central Africa, attention has been turned toward geography. To the "Recueil Consulaire" the Belgian consuls contribute papers of value; the report of the consul in Venezuela, M. Ern. van Bruyssel, is a complete dissertation on that republic, its trade and its seaports. Count Goblet d'Alviella and Émile Leclercq have written a monograph on the Canary Isles; Octave Maus, on Malta, Constantinople, and the Southern Crimea; Albert Verhaegen, on Brazil; Alfred Bruneel, on Damascus, Jerusalem, and Suez; Albert Dubois, on Spain, Gibraltar, and the coast of Morocco; Ernest Gilon, a work on Uncivilized Races; and M. Édouard de Laveleye, one on the present condition of the United States.

In the domain of political and moral sciences, besides numerous essays on the proportional

representation of minorities in elections, a question which preoccupies public opinion, there are sundry works of importance. M. Périn, ex-Professor of the University of Louvain, who was the leader of the Ultramontanes, has published a remarkable book on the "Doctrines Économiques depuis un Siècle." Hector Denis, professor at Brussels, has studied the question of the income-tax. Professor Victor Brants, of the Catholic University of Louvain, has compiled an interesting account of "L'Économie Sociale au Moyen Âge." Dr. César de Paepe has published a French translation of a pamphlet of Lassalle's, and has added to it an essay on the German socialist. Louis Borguet has a translation of Minghetti's "Lo Stato e la Chiesa," with an introduction by M. Émile de Laveleye; there is a volume by the latter author on "Le Socialisme Contemporain," and four essays on "La Question Monétaire en 1881."

Three philosophical works have especially attracted notice during the past year: "De la Connaissance de Soi-même," an essay on analytic psychology by Professor Charles Loomans; "La Liberté et ses Effets Mécaniques," by J. Delbœuf; and "L'Essai sur la Morale Stoïcienne," by Professor Em. Hannot.

Jurisprudence has furnished a contingent of remarkable works. Professor F. Laurent has published several volumes of his work on "Le Droit Civil International." Ernest Nys has written on "La Guerre Maritime." Edmond Picard has excited violent clamors by his pamphlet, "La Confection Vicieuse des Lois en Belgique," a satire on the legislation of the Belgian Chambers.

The history of fine arts occupies an honorable position. F. A. Gevaert, who has published the second volume of his "Histoire de la Musique dans l'Antiquité," has studied the rhythm, metre, chords, and general structure of antique compositions, instruments, lyrical monody, instrumental soli, choral dances, music in the Greek drama, and finally the decadence of musical art among the ancients. Alphonse Wauters has written a monograph on Bernard van Orley. Max Roose has supplied curious details concerning the engravers of the Rubens school in "Les Frères Wienix à l'Imprimerie Plantinienne." Canon de Haerne has published a "Coup d'Œil Historique sur l'Art Espagnol en rapport avec l'Art Flamand." Vanden Brande's "Geschiedenis der Antwerpsche Schilderschool," a masterpiece of historical accuracy; "Un Congrès de Peintres à Bruges en 1468," by M. Alexander Pinchart; "L'Art et la Liberté," by Lucien Solvay, and "Les Caractères de l'École Française Moderne de Peinture," by Émile Leclercq, treat of the present epoch.

Two original volumes of poetry have appeared, "La Mer Éléante," by M. Georges Rodenbach; and Théodore Hannon's "Rimes de Joie." A materialistic and eccentric style mars the poetic effect of the latter.

There is a whole series of novels and novellettes.

In literary criticism Frédéric Faber has written on Jean François de Bastide, a French libeler of the past century; and G. Eeckhoud has published a volume of details on Hendrik Conscience.

The most original works produced in Belgium are written in Flemish. New works of Flemish poetry are by J. de Geyter, Hansen, Amandus de Vos, Guido Gezelle, Pol de Mont, the late Alfred Wenstenraed, Staes, Rens, and others. J. Vuylsteke has printed in a single volume his "Verzamelde Gedichten."

Besides works of fiction by Van Cuyck, Janssens, Van Haesendonck, and Jan Bouchery, Geiregat's "Vergeet-mij-nietjes" and "Aldernardiana" by MM. Teirlinck-Styns are noteworthy. The new Amandus de Vos's novel, "Een Vlaamsche Jongen," which appeared under the pen-name of "Wazenaar," produces the effect of a new book, so conscientiously has the author revised his work.

BOHEMIA.—The activity that marks the beginning of a new era for Bohemian literature has in 1881 mainly found expression in the magazines. Jaroslav Verchlicky has two more volumes of original verse, "Nové Epické Básne" and "Poutí k Eldoradu" ("On the Pilgrimage to Eldorado"). A long narrative poem, "Twardowsky," from the same pen, appeared in the periodical "Lumír." Svatopluk Cech and Julius Zeyer are both poets and romancers. Cech contributed minor poems and sketches to his magazine, the "Květy." Zeyer wrote a novel, "Zrada v Dome Han" ("The Treason in the House of Han"), on a Chinese theme as a continuation of a series, "The Tales of Shoshana." A young poet, Karel Leger, issued two volumes of verse, "Básne" ("Poems") and "Zapomenuté Sny" ("Forgotten Dreams"), including echoes of the Russian national ballads and lyrics. In a narrative poem by Otokar Cervinka, "Ales Romanov," the hero is a young enthusiast of 1848. Adolf Heyduk, the Burns of Bohemia, wrote "Dudák" ("The Bagpiper"). Irma Geisslová's "Divoké Korení" ("Wild Weeds") contains lively and original fancies.

The drama, the weakest part of Bohemian literature, seems to be improving. The opening of the new national theatre at Prague stimulated writers, nor were they checked by the burning down of the grand edifice almost immediately after its completion. A new fund of a million florins was raised by public subscription in less than a month, and the theatre will soon rise from its ashes. The historical drama suffers from the police restrictions, no historical personage nor theme, however distant in time, being allowed to figure on the stage if connected with the national political and religious struggles. "Harant's Wife," from the chronicles of the "Thirty Years' War," by E. Krásnohorská, a lady, was one of the notable plays of the year, as was also Durdík's

philosophical drama, "Stanislav a Ludmila," founded on the Hussite movement.

Sofia Podlipska has an historical romance, "Jaroslav ze Sternberka," and the first part of a social novel, "Peregrinus." Alois Jirásek published "Na Dvore Vévodském" ("In the Duke's Court"), and V. Benes is the author of a series of popular fictions under the titles "Cestou Krizovou" ("By the Passion Road"), "Stadicky' Král" ("The King of Staditz"), and "Letopisy Sázavské" ("The Chronicles of Sázava").

FRANCE.—At the present day the rate of production of the publishers exceeds in Paris alone two hundred books and pamphlets per week.

Lecoy de la Marche has published a life of St. Martin. A manual of the history of religions has been translated by Maurice Verne from the Dutch of C. P. Tiele. A new commentary on the Bible is by Édouard Reuss. Marius Fontane has undertaken a universal history, and gives as a first installment "L'Inde Védique," presenting a picture of social life and of the early development of the ancient Indian civilization; the second volume will be entitled "Les Iraniens." Of the "Écrits Inédits de Saint Simon," annotated and edited by M. Faugère, two volumes have appeared. Lieutenant-Colonel Jung's "Bonaparte et son Temps" has been eagerly read. The "Mémoires de M. Claude," who was chief officer of the *Police de Sécurité*, is a sensational book; these memoirs have been disowned.

Among the noteworthy historical publications of the year are the "Maréchale de Villars et son Temps," by Ch. Giraud; a book on Charlemagne by Lucien Double; a book entitled "Histoire du Tribunal Révolutionnaire de Paris avec le Journal de ses Actes," by H. Wallon; Ch. Hippeau's "Instruction Publique pendant la Révolution"; Augustin Marrast's "Vie Byzantine au VI^e Siècle," and a popular illustrated history of France, written from a democratic point of view. Chantelauze, who edited Commynes, has published a monograph on the amours of Louis XIV and Marie de Mancini; and Jules Lair a monograph on Louise de La Vallière. A "History of the French Language," traced from its birth and development down to the end of the sixteenth century, is by A. Loiseau. The Marquis de Nadaillac's "Les Premiers Hommes et les Temps Préhistoriques" is a work on the antiquity of the human race. Félix Piaux writes on "Les Précurseurs Français de la Tolérance au XVII^e Siècle." Noteworthy works of military history are Bourelly's "Life of Marshal Faber," and Staff-Captain L. Vial's "Histoire Abrégée des Campagnes Modernes jusqu'en 1880."

It is only ten years since the science of geography began in France to be considered of much moment. Jules Verne's story-books have helped not a little to stimulate the study of this science. Most of the publishers have undertaken the publication of "Bibliothèques de

Voyages," the most successful of which are the "Journal des Voyages" and of Edouard Charton's "Tour du Monde." The "Nouvelle Géographie Universelle," by Élisée Reclus, is the work of a great geographer. Simonin's "Ports de la Grande Bretagne" is popular. Paul Soleillet's travels in the Sahara and Soudan, and "L'Europe Illustrée," appear in parts. Rochefort's "Voyage de Nouméa en Europe" was much read. The expedition to Tunis brought forth books on the regency of Tunis, on Algeria, and on the colonies, in great numbers.

The "Discours et Plaidoyers de Gambetta" will contain all the addresses of the great advocate as well as all his parliamentary speeches. The "Leçons, Discours, et Conférences" of Paul Bert, Minister of Public Instruction, contain physiological lectures on the vital principle. "L'Œuvre de Claude Bernard" is a thick volume, furnished with an introduction by Mathias Duval, and notes by E. Renan, P. Bert, and Armand Moreau.

In addition to continual reprints of the works of Auguste Comte, there has just been published a summary of the "Positive Philosophy," by Jules Rig. Alexis Bertrand's "L'Aperception du Corps Humain par la Conscience" is a book which has provoked warm controversy. Fouillée's "Science Sociale" is an able work. "L'Histoire de la Philosophie Scolastique," by M. Haureau, gives an account of the later exponents of mediæval scholasticism. Octave Noël's "Étude sur l'Organisation Française de la France" traces in the past the originals of the modern French administrative system. Y. Guyot has written "Doctrines Sociales du Christianisme," an exposition of the social principles of Christianity, their application, and the influence at present exercised by Christianity on humanity. There is an essay on the distribution of wealth by Paul Leroy Beaulieu. Adam Smith's "Wealth of Nations" has been translated by Germain Garnier. Alexandre Beljame has written an essay on English men of letters and their readers in the seventeenth century.

New works in philology are, a book on French etymology, by Hippolyte Cocheris, and Proflet de Mussy's "Nouveau Cours Pratique de la Langue Française." F. Godefroy's colossal enterprise, the "Grand Dictionnaire de l'Ancienne Langue Française et de tous ses Dialectes du IX^e au XV^e Siècle," is still progressing. Interesting works of the same class are the "Dictionnaire des Lieux Communs," and the "Dictionnaire d'Argot," by Lucien Rigaud.

Of the naturalistic school of fiction, the master, Zola, had not published his new novel before the end of the year, and only appeared as a critic and controversialist. J. K. Huysmans, one of his disciples, published "En Ménage," and another, Henri Céard, makes his first essay with "Une Belle Journée." The posthumous work of Gustave Flaubert, "Bouvard

et Pécuchet," appeared at the beginning of the year.

One of the most notable works of the year as a popular success has been the "Numa Roumestan" of Alphonse Daudet. Jules Claretie's "Amours d'un Interne" initiates his reader into the sorrows and mysteries of Parisian hospitals, and describes their machinery in a realistic style; while in "Monsieur le Ministre," his last work, the author has succeeded in fixing an image of the new parliamentary manners. The "Histoire d'une Parisienne" of Octave Feuillet is sober as regards details, and easy in style. The author of "M. de Camors" has written a novel free from his usual eccentricity. Ferdinand Fabre, in "Mon Oncle Célestin," approves himself an observer and a brilliant writer. The "Noirs et Rouges" of M. Cherbuliez, the newly elected member of the Academy, is an irritating political novel, but elaborated with care. Madame Henri Greville's "Le Moulin Frappier" and "Perdue," are romantic and passionate tales.

In "Le Bachelier," Jules Vallès has given in a very excellent if mutinous style the second part of his confessions, which are finished in a third volume, "L'Insurgé." In "Le Roi Vierge" Catulle Mendès has painted the court of the capricious King of Bavaria. "Le Père de Martial" of Albert Delpit is one of the better works of the year; as are also "Pompon," by Hector Malot, and "Cezette," a story of country manners in the south, by Arthur Pouillon. A striking analysis of vice is "La Glu," by Richepin.

"Les Quatre Vents de l'Esprit" of Victor Hugo is the most beautiful volume of poems that has appeared since the first series of "Légendes des Siècles." "Les Poésies Inédites de Lamartine," which has just appeared, contains some exquisite pieces. Paul Déroulède, in "Marches et Sonneries," is inspired by the patriotic braggadocio of his nation. A revised edition of "La Chanson des Gueux" of Jean Richepin has appeared.

Of the plays of the year, "Madame de Maintenon," a pretty piece in verse by François Coppée, had only a *succès d'estime*. The "Princesse de Bagdad," by Alexandre Dumas, was almost a failure. "Le Monde où l'on s'ennuie" of Édouard Pailleron was the greatest success of the year. "Odette," by Victorien Sardou, is a captivating play. The dramatized versions of "L'Assommoir" and "Nana" have been printed. Zola has besides published a critical *brochure* styled "Nos Auteurs Dramatiques," in which he passes sentence on his brethren.

The dramatic works of Ohlenschläger and Holberg, the Corneille and Molière of Denmark, have been translated by Xavier Marmier. "Le Théâtre en Angleterre" embraces the history of the English stage down to the immediate precursors of Shakespeare, by J. Jusserand.

Works connected with the fine arts are the "Benvenuto Cellini" of M. Quantin; "La Re-

naissance en France," a colossal work by Léon Palustre; the "Van Dyck" of Jules Guifrey; "L'Art à travers les Mœurs," by Henri Havard; the "Albert Dürer et ses Dessins" of Charles Ephrussi; the "Arts du Métal," by Giraud; "Millet," by M. Sensier; "Les Monuments de l'Art Antique," by Olivier Rayet; and the new work of Paul Lacroix, "Le XVII^e Siècle, Science et Arts."

GERMANY.—More books are written in Germany than in any other country, but fewer bought. In no other part of Europe is the number of family libraries proportionately so small; that of lending libraries, of which the rich and the well-to-do avail themselves without expense, so large. In consequence of this state of things the profits of a German writer are small, though books are dear. Of late efforts have been made to rescue authors, publishers, and the public from this imbroglio. Only since the house of Cotta lost "protecting privileges" have the German classics really begun to be the possession of the people, and enter the home of the tradesman and the cottage of the peasant. Along with the cheap editions, which unfortunately include only the works of past generations, there have appeared of late collections of single works of the best writers, which in part comprise the productions of living authors. The "Haus- und Familien-Bibliothek," published by Spemann, consisting of nicely printed volumes at a mark each, after the fashion of the French one-franc libraries, has had a great success. Enterprises like this, and like the collection of novelettes edited by Paul Heyse and Hermann Kurz—which has been discontinued—spare the ordinary reader the task of selection and the disappointments attending it.

Proportionately as the political ferment increases in Germany, the literary and scientific settles down.

Victor von Scheffel heads the numerous band of German convivial poets. One of the merriest is Rudolf Baumbach, the author of "Zlatorog" and "Frau Holde," who has published a volume of "Spielmansliedern." Richard Volkmann, a noted physiologist and the author of the fairy tales "Plaudereien an Französischen Kaminen," has published "Burschenlieder"; and another Halle professor, Ernst Zitelmann, also has published a volume of light poems.

The more dramatic prizes there are, the fewer plays there are that deserve them. The jury at Vienna has once more found no piece produced within the three years worthy of the Grillparzer prize. The conditions stipulated by Grillparzer include the Draconian rule that not only must the prize-work give promise of lasting success on the stage, but also possess literary merit. The first part of the rule was directed against the increasing number of closet dramas; the second against the degradation of the play into a spectacle. The jury debated whether they dared award the prize to the

"Hexe" of Arthur Fittger, or the tragedy "King Eric," by Joseph Weilen. "Clytemnestra," a tragedy by G. Siegert, written ten years ago, has only been acted this year. The object of the writer has been to reconcile the ancient theme to the modern conscience; and for this reason he has abandoned the notion of the destiny awaiting the heroine, and discarded the matricide of Orestes as repugnant to human feelings. While the writer of this play has converted a noble tragedy into a family drama, the more gifted author of "Die Patricierin," Richard Voss, has turned the historical struggle between tyrannical masters and avenging slaves into a tragical love-duet between the proud spouse of the triumvir Crassus and the gladiator Spartacus. This drama is full of color and energy; and, although its construction betrays the hand of a beginner, it gives a far truer picture of the Roman world than the tragedy mentioned above does of the antique spirit. A third tragedy, "The Carolingians," by E. von Wildenbruch, depicts the contest between the pious son of Charlemagne and his impious grandsons Lothaire and Louis. The author has taken great liberties with facts. In "Harold" the same writer treats the subject of Tennyson's tragedy of that name, but the development of motives is less studied than multiplicity of incidents. A subject well fitted for comedy has been used by Paul Heyse in his "Weiber von Schorndorf." In handling this amusing historical incident, the writer has depicted the contest between man and wife, in which the former represents the shrewd but anxious brain, the latter the vehement but generous heart. H. Kruse deals in his tragedy "Raven Barnekow" with a theme belonging to the Fatherland, the contest between the arbitrary but loyal bailiff and the burghers panting after freedom. German comedy has found a second Kotzebue in G. von Moser. None of his older works, nor the comedy which he has brought out this year in conjunction with Schönthan, "War in Peace," equal the vigorous caricature of "Deutsche Kleinstädter," or such a genteel comedy as the genial "Beide Klingsberg." A specific German type of dramaturgy is the village play. Since Charlotte Birch-Pfeiffer dramatized Auerbach's "Dorfgeschichten," and Mosenthal's "Deborah" brought the subject of Jewish emancipation on the boards, village life has been made fashionable by L. Anzengruber. This year a daughter of Madame Birch-Pfeiffer, Wilhelmine von Hillern, has made a successful attempt in the latter direction and surpassed her mother. "Die Geierwally" is an ably condensed dramatic version of her village tale of the same name.

The fresh, roguish, hearty tone which suits the fairy tale has not been so happily caught, since the days of Jacob Grimm, as in the "Sommermärchen" of Rudolf Baumbach. In these stories the old German mythology, which like the Greek peopled hill and wood and spring

with gnomes and elves, wakes to life figures full of spirit in the glades of the Thuringian Forest.

Among the few original novels of the year the first place is due to Conrad Ferdinand Meyer's tales of "Georg Jenatsch," "The Saint," a pilgrim's tale, and "Das Brigittchen von Trogen." Paul Heyse has printed in the magazines a story of the troubadours of Provence, notable for subtilty and coloring, called "The Lame Angel," and under the title of "The Ass," a humorous picture of pessimistic philosophy in the ruinous huts of poverty. Louise von François, in her humorous story, "Phosphorus Hollunder," has furnished a description of a refined character confined in a small town, after the manner of Jean Paul. Marie von Ebner-Eschenbach, in her "Newly Collected Tales," has supplied characteristic pictures from the stratum bordering between art and handicraft. Rosegger, her fellow-countryman, whose collected works have been published this year, gives graphic descriptions of life among the Austrian Alps. A third Austrian writer, Leopold Kompert, known from his novelettes, "From the Ghetto," as an able delineator of the Jewish popular spirit, has in his "Heini and Franzl" presented a psychological and exciting story of school life. The hero in the last volume of Freytag's "Ahnenerben" (the descendant of Ingo, King of the Vandals) condescended to settle down, as a Dr. König, in the humble position of editor of a small weekly paper in a Silesian village. The solution of the historical problem, which had been anxiously awaited for eight years, and followed through six volumes, seems to be that Europe, according to the dictum of Gervinus, is ripening for republics. While Freytag has thus descended to every-day life, Felix Dahn, the historian of the Western Goths and the glorifier of the Ostrogoths, has ascended in "Sind Götter?" to the gods of the Walhalla, where the father of the gods, Odin, finds comfort in a pantheistico-pessimistic view of life, which he seems to have learned from Schopenhauer. Georg Ebers is the Alma-Tadema of novelists; his last novel, "The Emperor," carries the reader back to the days of the Egyptian Renaissance under Hadrian. The learned author has this time not been content with exhibiting his stupendous knowledge of the detail of archæology, but, as in his best work, "Homo Sum," has devoted his strength mainly to delineating the contradictory character of his chief figure, which is a marvelous mixture of brilliant and dangerous qualities.

A most interesting epistolary collection, and one not merely historical, but full of human interest, is that of the letters of Maria Theresa to her children and friends published by the historian Alfred von Arneth. Another set of letters, those of a brother of the great Swiss historian Johannes Müller from "Herder's House in Weimar," written toward the dawn of the golden age of German literature, are a

genuine specimen of the sentimental eccentricity and fantastic enthusiasm of the day. The accounts of the travels of another student are an illustration of the cosmopolitan sentiments and revolutionary enthusiasm for the young French republic that prevailed among the contemporaries of the First Consul. The author, Carl Hase, was a Jena philologist, who imagined that Greek liberty was about to reappear in France. He wandered on foot to Paris with twenty thalers and his Homer in his pocket. There the young Grecian, owing to his knowledge of languages, finding friends among the most distinguished scholars, obtained a post in the National Library, and was afterward tutor to the subsequent Emperor Napoleon III. Hermann Rollett's splendid collection of the authentic portraits of Goethe is accompanied by full and critical remarks by the editor. The portraits are not unfrequently very different from the usual conception of the poet. This year's number of the Goethe annual, edited by Ludwig Geiger, contains among other contributions an interesting article on Goethe's relations to Denmark, from the pen of the eminent literary historian Georg Brandes.

The last volume of Vischer's critical essays, "Altes und Neues," contains a vindication of his disputed opinion about the second part of Goethe's "Faust." The same writer also contributes a critical study on the Swiss novelist Gottfried Keller, whose strange romance entitled "Green Henry," after the manner of "Wilhelm Meister," has this year reappeared remodeled and with an entirely different ending. In Buchner's "Life of Freiligrath," in letters, we are presented with a view of the real life of a man whose poetic flame showed itself early, and, in spite of all outward hindrances, burst forth on the volcanic soil of his native Rhineland.

Leopold von Ranke has begun an extensive work on universal history. While this work gives history in a cosmopolitan form, others, such as Arnold's "Early Teutonic Period" and Dahn's "Teutonic Peoples and Tribes," present history in a national form; others, again, such as L. von Gonzenbach's "Life of Hans Ludwig von Erlach," present it in a local shape. Arnold has set himself the task of bringing Tacitus's account of the Germans again into repute in opposition to Caesar's derogatory reports. Dahn is acknowledged one of the best authorities on the Teutonic tribes.

The travels of Baron von Hübner, late Austrian statesman and ambassador, which were first published in French, have appeared as a German original. Ludwig Steub's pleasant pictures "From Tyrol" and Martin Schleich's "April Days in Italy" are interesting descriptions of European scenes.

An artist's work on Leonardo da Vinci has recently appeared, by the painter Ludwig, in Rome. Among the works relating to music the most noteworthy are E. Hanslick's "Musikalische Stationen," a series of new critical es-

says, and a collection of unpublished "Mozartiana," by Gustav Nottebohm.

Among the political works Franz von Löher's "Russland's Werben und Wollen" occupies a prominent place. Conspicuous also are the somewhat dogmatic "Essays" of Ed. Lasker, the leader of the National Liberal party; noteworthy also is the series of speeches of the Chancellor (1871-'79).

German philosophy again stands, as it did a hundred years ago, under the influence of Kant. Kant hoped to establish human knowledge on a new and indestructible foundation by giving proofs of the unalterable *a priori* elements in man's capability of knowledge. This discovery was first made public by him in his inaugural address in 1770, and the proofs were given in his three principal works, "The Critique of Pure Reason," "The Critique of Practical Knowledge," and "The Critique of the Power of Judgment." The first of these, which is the starting-point for all modern German philosophy, as Locke's essay is that of all modern English philosophy, appeared in 1781. It has become necessary to form a special system of Kantian philology, and it is also necessary to have special commentaries on Kant on account of the obscurities and contradictions that originally existed in the work or have gradually crept into it. Hans Vaihinger, a pupil of the late Albert Lange, the founder of the Neokantian school, has come forward to meet this want with an able and exhaustive commentary on Kant's "Critique of Pure Reason," in which he compares the text of the manuscript version with all the other editions, and offers, in continued succession, an explanation and comparison of these together with the main substance of all Kant's other works. Another admirer of the Königsberg sage, Karl Kehrbach, has reprinted another work of Kant's, "Toward Everlasting Peace"; it is a small work, but one which, considering the dangers impending, is doubly important at present. It appeared first in 1795, amid the hue and cry of the war of the Revolution. Kant's sermon on peace, in which he expresses the hope to see the disputes of nations settled by a supreme international law court, was unfavorably received by his contemporaries, who thought it contained "too glaring an amount of democratic sentiment." Of the other philosophical writings of the year, some follow the path struck by Kant, such as Otto Kaspari's treatise "On the Certainty of Knowledge," and Robert Zimmermann's "Outlines of Anthroposophy"; the latter offers the first encyclopedic conclusion of Herbart's realism. Other works, such as "The Visible and Invisible World," by the spiritualist Perty, and "On the Prejudices of Mankind," by another spiritualist, Hellenbach, who, in spite of an otherwise unprejudiced mind, seems prejudiced in favor of mediums and spirit-rapping, are a proof that Kant has not proved sufficient to enlighten all.

GREECE.—The first collected edition of the

poet Achilles Paraschos fills three volumes, and represents the activity of twenty years. In days when the realistic school is beginning to gain ground in Greece he has remained true to the romantic school. He is the most considerable Greek lyric poet of the day. The wit of the *Γέλωτες* of Demetrius Kokkos is pure Attic. Georgios Suris shows talent in his comic verses. Georgios Drosinis is a young and promising poet. In his collection of lyrics, "Cobwebs," he wavers between the tenderness of Coppée and the humor of Heine. The Calderon medal offered by the Madrid Academy has been carried off from thirteen competitors by Const. Xenos.

The editing of unpublished sources of the history of mediæval Greece and of texts of popular literature is zealously pursued. Constantine Sathas has brought out in Paris the first two volumes of his "Monuments Grecs." Lambros has completed his edition of the hitherto inedited works of M. Akominatos, Bishop of Athens (1182-1220), and has published at Paris his "Collection de Romans Grecs," a collection of mediæval Greek poems. A. Miliarakis has printed the epopee on Basilios Digenis Acritas. Gabriel Sophocles has brought out a versified work of the polymath Cæsarios Daponte. Gabriel Destunis has published at St. Petersburg the song of Armuris and a *threnos* on the capture of Athens by the Turks. He has also issued a popular poem of Trebizond, "Xanthinos." The late Professor Wagner's "Trois Poèmes Grecs du Moyen Age inédits" have been printed. A. Sigalas has published, under the title of "Collection of National Poetry," about 400 popular songs with the music. Interesting is the collection of Epirote songs made by the late Pan. Aravantinos.

In philology there are: A metrical translation in the popular language of the "Odyssey" by Jacob Polylas; the treatises by A. Tzerepis upon Greek compound words; upon the Areopagus, by K. Papamichalopoulos; on the "Festivals of the Ancient Greeks," by A. Maltos; "Critical Remarks on Strabo," and on "The Native City of Pæonius of Mende," by M. Dimitsas; and on "The Scientific Determination of Ancient Greek Plants by Aid of the Present Names," by S. Krinos. "A Short Account of Education among the Modern Greeks," by C. Xanthopoulos, is a useful book. Praise is due to the work published in Paris by G. Chasiotis, "L'Instruction Publique chez les Grecs depuis la Prise de Constantinople," in which the history of the formation of schools throughout Hellenic lands during the last four hundred years is related.

N. Philippidis has treated of an interesting chapter in the national history in his work on "The Uprising in Macedonia in 1821." The "Historical Studies" of M. Renieris treat of the accession of the Candiot Philip Filargos to the Papal throne as Alexander V, and of the position of the Byzantine Empire at the

Council of Bâle. A work written in German by S. Pappageorg, "Ueber den Aristeeasbrief," contains a collation of a codex hitherto unused. G. Derbos treats of "The Legendary Journey of St. Peter to Rome."

HOLLAND.—A young author, G. Jonckbloet, has given in "Vlindertjens" ("Butterflies") some charming poems. Mallinckrodt's patriotic poems and Lovendaal's love poems are written with warmth of feeling. A little volume of the poetry of Mrs. Hymans-Herveldt, who has died, has just been issued. Under the pseudonym of "Fiore della Neve" a poet has come before the public with "Liefde in het Zuiden" ("Love in the South"), narrating a love tragedy in verse of a very high order.

A prose translation of all the plays of Shakespeare has been completed this year by A. S. Kok.

An interesting book for the history of the Church is Pierson's "Studiën over Calvyn," by which he has highly incensed the admirers of Calvin.

The fact that Holland and Belgium have rejoiced in 1881 in the fiftieth anniversary of their separation has led many to write once more about the war of 1831, and the campaign of ten days. So Wupperman has written the "Geschiedenis van den Tiendaagschen Veldtocht"; Weitzel, "Herrinneringen van een oud-Vrywilliger" ("Memoirs of an ex-Volunteer"), and Captain de Bas, "Two Reviews in '31."

Partly to the history of the Church and partly to that of literature belongs the posthumous work of Professor Moll, "Geert Groete's Dietsche Vertalingen," edited by Professor Acquoy. The first part of a new edition of Huygens's works has appeared, which will be a worthy counterpart of Leendertz's edition of Hooft. Professor Moltzer published the fourth part of his "Studies and Sketches," the plays of Starter (seventeenth century), an Englishman by birth. Dr. Jan te Winkel has published an essay on Blasius. The third part of Dr. van Vloten's "Nederlandsch Kluchtspel" is finished. In the Dutch farces we see all the native humor and aversion to prudery. Galandat Huët is publishing some of the unprinted letters from and to Elizabeth Wolff. Beets has edited the poems of the accomplished Anna Visscher.

Busken Huët is writing in French a history of the civilization of the Dutch down to the seventeenth century.

The "Archives of Dutch History of Art," continued for many years by Obreen, contain interesting details of the clubs of painters and the Guild of St. Lucas. Johan Gram, in "Onze Schilders in Pulchri Studio," describes the lives of about eighty modern painters, with many anecdotes. A more serious book is Vosmaer's "Modern Painters"; the first essay, on Israëls, contains etchings, photographs, and portraits, and says more about the artist's work than about the artist.

A novelty in fiction is the ethnographical

novel. Mr. Perelaer, the author of "Bornco," has succeeded in making his book fascinating and instructive at the same time. "La Renzoni," by Melati van Java, is her best novel. Other works of fiction are Beekman's "Schetsen en Novellen," and Van Maurik's new volume. Van Bloemen Waanders gives his readers in his "Indische Schetsen" the benefit of his knowledge of Indian affairs. Reminiscences of India and impressions of Holland are to be found in Gideon's "Brieven aan de Neefjes in de Oost" ("Letters to my Nephews in the East Indies"). Werumens Buning has written another volume of tales, "Our Ancestors on the Ocean," in which the Dutch naval heroes are painted in a graphic and genial style. A novel by Marcellus Emants, "Jong Holland," takes a pessimistic view of his contemporaries. Pleasant books of fiction are two little novels of Ter Burch, "Sproken van Minne" ("Tales of Love").

HUNGARY.—Peace prevails in Southeastern Europe, and the effect is gradually becoming visible. Hungary has always exercised a strong intellectual influence upon the small Christian nationalities of the East. Professor Max Müller is to a certain extent right when he pleads for the use of a better known language. But one point which has been overlooked is that Hungarians before all keep an eye upon their own nation, and that knowledge can be only diffused among a people if clad in the national garb. This is especially the case with the Hungarians, who defend themselves against the formidable influence of Germany, and who strengthen their national individuality by using their vernacular for scientific purposes. Of literary productions which interest a wider circle the "Ungarische Revue," a periodical written in German, gives extracts from the papers read before the Academy, and papers upon Hungarian topics from the pens of eminent men.

Jókai has two novels, called "Those who Die Twice" and "Pater Peter" ("Friar Peter"), which prove the fertility of this gifted author. Among the novel-writers of the younger generation, Cornelius Ábrányi keeps the first place. In his "Old and New Gentry," the contrast between an impoverished country squire and a financial upstart is handled. Next stands Colomannus Mikszath, whose fiction, "Our Slavonian Countrymen," is a faithful picture of life in Upper Hungary. Not less interesting is Gustav Beksics's "The Country of Liberty," a description of England in the form of a novel. Hungarian fiction suffers from the competition of foreign countries.

Next to the novel, lyric poetry is most in fashion. Aladár Madách and Ludovic Bartók have come forward with a collection of their scattered verses. Of the older writers, John Vajda is a poet of talent and narrative power; Paul Gyulai is, after Arany, the most eminent Hungarian poet, of great finish and elegance; and A. Greguss is a tasteful versifier of fables.

In dramatic literature Gregor Csiky earned the laurels of the year with his "Czifra Nyomoruság" ("Splendid Misery").

In philology the Academy has published "Linguistic Monuments." Count G. Kuun's edition of the "Petrarca Codex" is placed before the scientific world in a Latin translation. Turcologists will be thankful for his edition of the Cumanian glossary, which dates from 1303. Professor J. Budenz has finished at last his "Magyar-ugor összehasonlító Szótár" ("Magyar-Ugrian Comparative Dictionary"), and students of the Ugrian branch of the Ural-Altaic languages will now have ample opportunity to get acquainted with the degree of affinity existing between the Finnish, Esthonian, and other tongues, and the Magyar. Adopting the theory, by no means proved, of the predominantly Finn-Ugrian character of the Magyar tongue, valuable portions of his work are defaced by arbitrary etymologies. In "Az Iszlám," by Dr. J. Goldziher, Islamism is shown in its real character as the religion of the inhabitants of the desert, with its traditions, its hagiology, its influence upon the old architectural monuments, and the European prejudices against it. "The Great Epic Poems of the World," by Charles Szász, contains extracts from the great epics of the Indians, Persians, and Greeks. A contribution to the history of education in Hungary is "Our Public Instruction in the Eighteenth Century," by the late Aladár Molnár. To educational literature belongs also M. Ludvic Felméri's "The Present State of Public Instruction in England."

"The Speeches of Francis Deák from 1829 to 1847," edited by E. Konyi, was warmly received by the public.

Connected with the politics of the last decades is Mr. Francis Pulszky's concluding volume of his memoirs. It contains the impressions of a former political refugee in London and in New York. Of an outspoken character are the essays and speeches of Augustus Trefort, at present Minister of Public Instruction in Hungary.

Sigismundus Ormos's "The History of Hungarian Civilization during the Period of the Arpadians" is the first part of a large work on the history of civilization in Hungary, and from which we learn that Hungary during the middle ages was not entirely dependent on German civilization, but owed a good deal to Italy and Byzantium.

ITALY.—Notwithstanding the great number of theatres, and the proverbial proficiency of third-rate actors and actresses in Italy, the number of new plays acted is small in comparison with the number written. Out of one hundred and one plays presented at the competition instituted by the jury of the National Drama of Milan, not one was considered worthy of the stage. Public opinion remains faithful to its favorite authors. The loss of Pietro Cossa, the Roman dramatist, and of Tommaso Gherardi del Testa, of Pistoia, was very deeply felt, but

there are still about ten distinguished writers who contend for public favor: Cavallotti and Castelnovo, of Milan; Ludovico Muratori, of Rome; Achille Torelli, of Naples; Giacinto Gallina, of Venice; Bettoli, of Parma; Giuseppe Giacosa, Vittorio Bersezio, Leopoldo Marengo, and Valentino Carrera, of Turin. The last-named has had great success at Turin with a play in two acts, the subject of which is the last days of Goldini, the Venetian dramatist. F. Galanti's volume, entitled "Carlo Goldoni e Venezia nel Secolo XVIII," is one of the best literary monographs produced in Italy. This book, like Antonio Virgili's "Francesco Berni," which also appeared this year, is the result of many years of conscientious work, and is a proof of the way in which literary criticism has advanced in Italy within the last few years.

Count Louis Sernagiotto has written the lives of two Venetian painters, Natale and Felice Schiavoni. A work on Correggio is by a Greek lady, Marguerite Mignaty, and is written in French. Signor Molmenti is illustrating the works of the great Venetian masters; and Signor Bertolotti has compiled in two volumes a curious account of the life of Lombard artists in Rome. All the congresses which have this year met in Italy, and especially the International Geographical Congress of Venice and the International Geological Congress of Bologna, have given birth to a number of special publications and interesting memoirs. Besides these has also appeared this year the second volume of the "Acts of the International Congress of Orientalists at Florence."

Antonio Lubin has written an excellent commentary on the "Divina Commedia." Giuseppe Jacopo Ferrazzi has edited a "Bibliografia Ariostesca." The collected works of Bernardino Zendrini, the translator of Heine, have been published, with a biography. The "Ricordi della Giovinezza di Alfonso La Marmora," by Louis Chiala, is a book of thrilling interest. The twelfth and last volume of the works of Shakespeare, translated by Giulio Carcano, has been printed. Contemporary portraits, "Disraeli and Gladstone," are by Ruggiero Bonghi. The "Codex Astensis" of Malabayla has been carefully edited by Quintino Sella. The first volume of the "Storia della Letteratura in Italia" has been published at Genoa by Emanuele Ceesia. The important "Carteggio Galileiano Inedito" was issued by the Marquis Giuseppe Campori, of Modena. Dr. Giovanni Urtoller de Cesena has published "Lo Statuto Fondamentale del Regno d'Italia," with a commentary.

The most popular of the poets, Giosué Carducci, has issued no volume this year, though he has published a good many poems in different newspapers of republican and naturalistic tendencies. One of these papers, "La Cronaca Bizantina," published in Rome, occasioned some stir and emotion. The "Giobbe" is a satirical poem of another illustrious poet.

Important new Italian novels are the fol-

lowing: "Malombra," by Giovanni Fogazzaro; "Mio Figlio," by Salvatore Farina; "Vita de' Campi," of Giovanni Verga; "Sotto i Ligustri" and "Il Roccolo di Sant' Alipio" of Caccianiga; "O Tutto o Nulla" of Anton Giulio Barrili; "La Contessina" of Enrico Castelnovo; "Sfoghi del Signor Scannavini" of G. L. Patuzzi; "Dalla Finestra" of Grazia Pierantoni Mancini; "Cuore Infermo" of Matilde Scrao; "Sull' Orlo dell' Abisso" of Antonio Baccaredda; "Nuovi Racconti" and "Fra Galdino" of B. E. Maineri; and "Entusiasmi," a posthumous novel of Roberto Sacchetti.

NORWAY.—A change is taking place in the character of Norwegian literature. Norway did not feel the impulse of the spirit of romantic nationalism which originated in Germany at the beginning of the century until long after it had elsewhere lost its significance. Consequently, when the chief civilized nations had ceased to regard nationality as a natural attribute, and modern culture as necessarily in antagonism with it and with poetic sentiment, Norwegian writers continued to see in the uncultured rural population of their country the true kernel of Norse nationality and the only objects worthy of their muse, while in their eyes the dwellers in towns were at once prosaic and unnatural. Fifteen years ago the first signs of a reaction against this mode of viewing things made themselves felt, and since then the new tendency has gradually been gaining in strength and extent. The self-elation which characterized the earlier literature of Norway has vanished, and we find in its place a self-depreciation equally strongly marked, to which is due the pessimism which distinguishes every modern Norwegian writer of any eminence, and which Ibsen may be said to have initiated.

The most interesting literary productions of the past year are certain novels in which this new bias is especially strongly marked. These works emanate from three young authors, who, under widely different conditions and forms of development, have each of them produced a novel which advocates pessimist views, and which will be found to be essentially similar to the other two in nature and aims. The first to claim attention is "Arbejdsfolk" ("Working People"), from the pen of Alexander Kielland. He writes gracefully if superficially, and looks at the classes below him from a noble and generous although false point of view. The scenes are laid in the uppermost stratum of Norwegian town life, which it depicts as fundamentally corrupt, while its literary character is in strict accordance with the type introduced by Zola in his naturalistic delineations of society. In a shorter story, entitled "Else, a Christmas Tale," Kielland seems to have attempted to follow English rather than French models. Here, too, the heroine belongs to the people; and the narrative is gracefully written, but marred by a want of psychological

discernment. More pleasant, although not so well written, is "Farlige Folk" ("Dangerous Folk"), by Kristian Elster, who died in 1881. A selection of his earlier productions appeared under the title of "Solskyer." The third of these pessimist novels is "Norsk Provinsliv" ("Norwegian Provincial Life"), by John Paulsen.

A new drama by Henrik Ibsen produced an extraordinary sensation. In a literary respect this drama, which is in three acts and is entitled "Gjengangere" ("Ghosts"), is remarkable for naturalism.

"En Valkyrie," by Nordahl Rolvaag, is a domestic play based on an historic foundation.

Among the scientific productions of the year must be included the last part of Professor O. Rygh's "Norske Oldsager," as well as Dr. Y. Nielsen's "History of the Development of Civilization in the Rural Districts of Norway in the Later Centuries," and Dr. A. C. Bang's "History of Julian the Apostate."

POLAND.—Among the notable historical works are Stan. Smolka's "Miecislus the Old and his Times"; Joseph Szujski's "The Renaissance and the Reformation in Poland," which shows erudition and gives a detailed account of that period; and Fr. Piekosinski's book "On the Rise of the Polish Commonwealth," in which the author offers a new hypothesis about the origin of the Polish nation and the first organization of its estates. Of Bobrzynski's "Outlines of the History of Poland" an enlarged edition was issued. "The Life of Count Adam Czartoryski," by Bron. Zaleski, remains unfinished. T. Wojciechowski's "Kasimir the Monk," one of the early kings of Poland, develops an historical hypothesis. Among the works of the essay species are W. Przyborowski's "The Country Folk Here and Elsewhere," and A. Kraushar's "Albrecht Laski." The publication of the historical writings left by J. Bartoszewicz has reached its eleventh volume. In this class of literature also fall Pawinski's "Finance System in Poland in the Days of Stephan Batory," J. Falkowski's "Close of the Polish Insurrection in 1831," and "The Neapolitan Debt," by K. Kantecki.

Kraszewski during the past year has published no less than twenty-one volumes of new novels. German translations of some of his novels have recently been published in Vienna. Next to Kraszewski in ability comes T. T. Jez (properly Sig. Milkowski), who has published two historical novels, "Hard Times" and "The Grandson of Choronz." His earlier novels have been translated into French, and Milkowski has since been applying his pen to French literature. Among humorous writers the best are J. Lam, the author of "Wonderful Careers," a cutting social satire, and Boleslaus Prus (properly Glowacki).

In the domain of dramatic poetry comedy predominates. A. Fredro, the younger, does not possess his father's eminent talent, yet inherited the gift of being able to excite laughter.

One of his comedies ("The Mentor") was performed with success in Hamburg. Blizinski during the year published a collection of his comedies, and wrote a new one, called "The Shipwrecked," which is quite equal to his older ones. One of Balucki's best works is his last comedy, "Brilliant Matches" ("Grube Ryby"). In the way of theatrical success all these have been outstripped by the patriotic piece "Kosciuszko at Racławice," by W. Lasota (a *nom de plume*), excelling in delineation of character and stage effects. In the domain of serious drama belong W. Szymanski's "The Statue" and A. Urbanski's "Under the Roof," which treats of a painful episode from the insurrection of '63. S. Wedlewski has translated the tragedies of Euripides, and Swicicki three of Lope de Vega's comedies. The dramatic fragments by Mrs. R. Kopnicka, entitled "From the Past," are, in fact, poems of a liberal tendency. The author has won more fame by her lyric poems, which are distinguished by their artistic form, while the subjects are generally connected with social questions of the day. Other lyrics are J. Chamiec's "Autumn Songs." Dr. A. Weisz has published in Leipsic a German translation of Mickiewicz's masterpiece, "Thaddäus." P. Soboleski has rendered similar service to the national literature by a work published by him in Chicago, in English, entitled "Poets and Poetry of Poland: a Collection of Polish Verses, including a Short Account of the History of Polish Poetry."

From the other branches of literature should be mentioned a work by the critic P. Chmielowski, "Outlines of Polish Literature during the last Sixteen Years," W. Spasowicz's studies on the two Polish poets Pol and Syrokomla, and his admirable history of Polish literature contained in the "History of the Slavonic Literatures." A. Reman, a botanist and traveler, has published "Sketches from a Journey to South Africa in 1875-'77; and J. Finkelhaus, "Pictures from Life in Northeastern Africa." The collected works of J. Kremer, the philosopher, and those of L. Sieminski, the æsthetic writer and poet, have appeared. The Counts Przezdziecki have completed the publication of the works of the old Polish historian Dlugosz (fifteenth century).

PORTUGAL.—The only symptoms of vitality apparent in Portugal are those evoked by the conflict between the aspirations of the people, the power of the Government, and the institutions of the country. Many of the publications of the year demonstrate the existence of the struggle which is going on between opinions and institutions, and various works of history and poetry attest intellectual independence. Oliveira Martins's "Portugal Contemporanea" gives a complete picture of Portuguese history from the death of Dom John VI in 1826 to the present time, and exhibits new democratic and socialist aspirations in opposition to effete monarchical principles.

The professor and democrat, Rodrigues de Freitas, has written a review of this book in which Dom Miguel, whom Senhor Martin describes as a generous enthusiast, is proved to have been a despot. The "Traças de Historia Contemporanea," by Senhor Antonio Teixeira de Macedo, founded upon the parliamentary memoirs of Passos Manoel, discourses upon the revolution of September, 1836, and shows the efforts of the house of Braganza to stifle the national movement in behalf of a constitution. Gomes de Amorim has published the first volume of a work on the writer Almeida Garrett. Counselor Antonio de Serpa has published a book called "Alexandre Herculano e seu Tempo."

There is now published a journal of caricature, "O Antonio Maria," supported by the admirable pencil of Raphael Bordalo Pinheiro and the incisive pen of Ramalho Ortigão. Gomes Leal has published a small poem in alexandrines entitled "A Traição," which satirizes King Dom Luiz with regard to the treaty of Lourenço Marquez. It was much read and applauded, and it was only after the issue of the fourth edition that the Government ordered the apprehension of the writer; they were, however, obliged to liberate him after three months' detention, without bringing him to trial. Leal also published two other poems conceived in the same vein, "O Hereje" and "O Renegado."

The first volume of the "Portuguese Plutarch" contains the biographies of the Infante D. Henrique, Vasco da Gama, Camoens, Damiaõ de Goes, D. John IV, Padre Antonio Vieira, Marquis de Pombal, Luiza Todi, Correa de Serra, Bocage, Monsinho de Silveira, and Herculano. The second volume contains the biographies of Sá de Miranda, D. Francisco de Almeida, Fernão de Magalhães, Infanta D. Maria, D. Manoel, Felix de Avellar Brotero, Duque de Lafões, José Anastacio da Cunha, Fernandez Thomaz, Domingos Antonio Sequeira, and Garrett.

A large volume has just been published on "Questões de Litteratura e Arte Portuguesa," in which are treated the personality of Gran Vasco, the Portuguese nationality of Amadis de Gaul, and the artistic style of Gil Vicente, founder of the Portuguese theatre.

Teixeira Bastos, one of the most devoted apostles of positive philosophy in Portugal, has published "Comte e o Positivismo." The same writer publishes a series of "Estudos sobre a Historia da Humanidade," a book of verses, "As Vibrações do Seculo," and a book of political philosophy, "A Dissolução do Regimen Monarchico Representativo."

Investigations regarding Portuguese folk-lore are being prosecuted, and in numerous reviews, such as the "Positivismo," the "Era Nova," the "Pantheon," the "Vanguarda," and the "Revista de Glotologia e Ethnologia," there have appeared articles respecting the poetry, traditions, and ethnology of the Portuguese

people. F. Nogueira has published a volume on "A Raça Negra," considered with respect to African civilization. The "Arquivo dos Açores" is a collection of historical documents, throwing light on the history of the Azores.

RUSSIA.—Two of the most eminent of Russian novelists, Dostoyevsky and Pissysky, died in January. Russia has but four first-class novelists left: Gontcharoff, Leo Tolstoy, Tourguénief, and Stchedrin, the last, however, more of a satirist than a novelist. The two former maintained literary silence during the year. Tourguénief published two small sketches, entitled "Portraits of Former Days," and a fantastic novelette, "The Hymn of Triumphant Love."

Russia's literary hero this year has been Stchedrin, who has completed his satirical epos "Beyond the Frontier," and commenced a fresh series of satirical sketches under the title of "Letters to my Aunt." Stchedrin for more than twenty years has been a faithful sentinel standing guard over Russian social life, and at the least sign of danger threatening the national liberty and happiness he has sounded the alarm. For this reason Stchedrin's satirical sketches are read with avidity by the public and cordially detested by the reactionary press. Behind the thin veil of easy satire it is not hard to discover the aching heart of the patriot. Obligated to conform to the rigorous laws enforced by a suspicious censorship, Stchedrin has invented a style of his own, quite intelligible to his readers, and yet proof against the scrutiny of the censor.

The satirico-realistic school, founded by Gogol, has met with favor. Among the more remarkable novels belonging to this type is S. Atava's "Growing Poor," a series of sketches from the life of a country gentleman, who wishes to improve the condition of the peasants and the value of his land, but is deceived by swindlers and ruined in speculations. The same subject is treated by Stakhyéeff in "On the Decline." In Saloff's novel, "The Young Squire of Olshana," a land-owner commences a career of improvement, but finding himself, as well as the people, a victim to deception, he loses his faith in humanity and himself takes to cheating. What has thus been done for the squirearchy, Gleb Ouspyensky has done for the peasantry in "Rural Disorganization." Other novels of the year are by Lyeskoff, Severin, Avsyéenko, Byelinsky, Snitko, Kouststchevsky, Boborykin, Stebeglof, Madame Olga Shapir, and others. Markyevitch has tried to connect the plot of his novel "Crisis" with the origin of Nihilism. W. Krestovsky has devoted "Egyptian Darkness" to a gloomy description of the life of the Jews for the last two generations in Russia.

Russian poetry has been very poor. A few unpublished poems of Pushkin and Nekrassoff have been given to the world. Madame A. Lyoff's poems promise a fair future. Nyeni-ro-

vitch Dantchenko, hitherto known as a traveler and novelist, has also added his name to the list of poets.

The drama has been equally sterile. Ostrovsky has completed another comedy, his forty-third, "Obedient Wives." Palm's new comedy, "The Electors," is a lively piece. A play by Kryloff, entitled "The Municipality Dissolved," is full of scenes from provincial town life and very humorous.

In the domains of learning and research Russian writers have devoted themselves lately more particularly to the past, present, and probable future condition of their own country. Count Oubaroff has published "Archæology of Russia: the Stone Age." Contributions to the ancient history of Russia have been made by Professor Drozdovsky in his researches on the chief monument of ancient Russian legislation, the so-called *Russkaya Pravda*; by Bogolyëg, "History of the Principality of Tchernigoff"; and Professor Klyoutchevsky in his work on "The Council of Boyars in Ancient Russia," which not only gives a history of that legislative assembly, but also of the society of the period. "The Power of the State in Russia in the Eighteenth Century," by Professor Dityatyn, and a very good work by B. Semeffsky, "The Peasants during the Reign of Catherine II," are the only two books treating of the eighteenth century. Senator Rovinsky's "Russian Popular Woodcuts" is valuable to the student of the history of manners and customs; it describes nearly five thousand woodcuts, and includes about four hundred reproductions. Among other historical works may be noted Preobrazhensky's "Moral Condition of Russian Society according to Maximus Græcus and other Contemporary Authorities," Prokhoroff's "Materials for the History of Russian Costume," and Soumtzoff's "Marriage Rites of Russia." An interesting addition to the history of the nineteenth century has been furnished by Zablotsky-Desyattoffsky in a biography, "Count Kisselyeff and his Times." The author has been able to make some remarkable disclosures. No insignificant number of memoirs has been published, among others those of Boutyenyeff, a diplomatist of the time of Catherine II and Alexander I, of Madame Karatygin, and the letters of Count Rostopchine, the Metropolitan Filaret, etc. Professor Ivanyoukoff's latest work is entitled "The Abolition of Serfdom in Russia." Professor Kotlyarevsky has published a "Bibliographical Essay on Early Russian Literature," Professor Alexander Vyessylovsky "Researches upon Russian Popular Religious Songs," and Vyessin a "History of Journalism in Russia." Parts of Professor Korsch's "General History of Literature," and the second volume of Porfiryeff's "History of Russian Literature," have appeared. In Professor Vinogradoff's "Origin of Feudalism under the Lombards," the principal conclusion at which the author arrives is, that in Italy, in the ninth and tenth

centuries, the connection between the dependence of the vassal and the *beneficium* had not yet become necessary. On ecclesiastical history the most important book is the second volume of Professor Goloubinsky's "History of the Russian Church." Znamyensky's book on "The Ecclesiastical Schools of Russia before their Reform in 1802" is also an interesting addition to church history. Toward universal church history Lybydyff's book on the "Ecumenical Councils of the Fourth and Fifth Centuries" is a valuable contribution, as is also Professor Ivantzoff-Platonoff's "Religious Movements in the Eastern Church in the Fourth and Fifth Centuries." "Russian Religious Sects," by Youzoff, is a work of great interest.

Philosophy has not been fruitful, and with the exception of Professor Vladislavlyeff's "Psychology" and "Lectures on the Philosophy of Religion," by Professor Koudryatsyeff, there has been nothing original.

Some interesting works of travel and geography have appeared, notably a work by Professor Minayeff on "Ancient India." This is a detailed review of the notes of a Russian traveler in India in the fifteenth century, one Nikitin, which have been translated into English by Count Vyelgoursky. Potanin's "Sketches of Northwestern Mongolia," a description of a trip taken in 1876-'77, and Kal'kovsky's "Round the World," are vivid descriptions of the countries they deal with. The same may be said of Colonel Kaoul'bar's "Notes on Montenegro," and Ogorodnikoff's "In the Land of Freedom," the result of the author's travels in North America. Ragozin has published the second and third volumes of his "Geographical and Ethnographical Description of the Volga."

In political economy, Professor Yanzhul's treatise on "The Salt Duties and the Result of their Abolition in England and Russia," may be mentioned. Professor Yanson's "Statistical Investigations of the Imposts paid by the Peasants," Odartchenko on "The Russian Village Community in Connection with the National Character," and a work by Isayeff and Stcherbin on Russian *artyels* (a sort of co-operative labor mutual liability association), are important economical works.

SPAIN.—The Madrid "Bibliófilos," after reprinting Padilla's "Romancero," have published for the first time the "Relacion de la Jornada de Pedro de Ursúa á Omagua y al Dorado," by an anonymous writer, a faithful picture of the atrocities committed in those parts by Pedro de Aguirre, followed by the "Cancionero General de Hernando del Castillo," first printed at Valencia in 1511.

Of the "Documentos Inéditos para la Historia de España" two more volumes, "Guerras del Perú," by Pedro Cieza de Leon, and a history, hitherto inedited, of the reign of Philip IV, have appeared.

Aribau and Ribadeneyra's "Bibliotheca de Autores Clásicos Españoles" terminated with

a full index to the seventy volumes of which it is composed.

Poets lyrical and dramatic abound in Spain. Within the year were issued, among others, "Poesias Festivas," by Blasco, besides another volume of "Epigramas," and "Aires d'a Miña Terra," by M. Curros Enriquez. This is the second edition, the first having been denounced and suppressed and its author excommunicated. The collected works of the late Duke of Rivas have been reprinted, with an introductory notice by Don Antonio Cánovas del Castillo, the late Premier. J. B. Enseñat, García Lavín, and Marín y Carbonel at Saragossa, Trueba and Verdaguer at Barcelona, Velarde at Seville, and a host of other poets, show that the taste for rhyming is not extinct. Campoamor's little volume of poetry entitled "Los Buenos y los Sabios," Echegaray's "Gran Galeoto," and Zorrilla's "Recuerdos del Tiempo Viejo," must be mentioned with praise.

Fernandez y Gonzalez, Valera, Alarcon, Blasco, and Pereda have long amused the public with their fictions. Two new novels by the first named are entitled "La Sobrina del Cura" and "La Leyenda de Madrid." "Medina Zahara," an historical legend by Alcalde, is deserving of notice, as well as his "Canto Epico de Lepanto," perhaps the sole attempt in epic poetry made this year in Spain. "Nuevos Cantos," by Narciso Campillo, "El Primer Loco," by Doña Rosalia Castro de Murguía, and "Heliodora," an operetta by the son of Hartzenbusch, are other productions in light literature.

The "Cervantistas," as they style themselves, have been comparatively idle of late, and the affections and sympathies of Spaniards would appear to have been suddenly transferred to another national idol, the great Don Pedro Calderon de la Barea, whose second centenary was celebrated in May. Innumerable compositions in prose or verse poured in from all parts of the ancient Spanish monarchy, from America and the Philippine Islands, as well as from Portugal and Germany; and the festival has brought forth a selection of Calderon's dramatic works in four volumes, by Menendez Pelayo; an "Album Calderoniano," by Spanish and Portuguese poets; "Homenaje á Calderon," anonymous; and several more works. In September the Congress of American Scholars and Writers (Congreso de los Americanistas) met. It was attended by delegates from all quarters of the globe, especially from France, Belgium, and Germany, as well as from remote parts of America where the Spanish language is still in use. The Government published a splendid volume entitled "Relaciones Geográficas de Indias," for distribution among the members of the congress. The editor is Marcos Jimenez de la Espada, the indefatigable writer on the geography and history of South America. The "Relaciones" are all original, and taken from the Archivo de Indias in Seville, a vast repository of papers and documents relating to America and Asia in general

and to the West Indies in particular. They form part of a collection prepared in Philip II's time, with a view to a statistical and political survey of the Spanish monarchy.

In the department of history a few valuable works have appeared, such as "Las Ordenes Religiosas," by Antequera; "Historia Critico-Filosófica de la Monarquía Asturiana," by Menéndez Valdés; "Galería de Jesuitas Ilustres," by Father Fidel Fita; "Historia de los Heterodoxos Españoles," by Marcelino Menéndez Pelayo; "Doña Ana de Silva y Mendoza," by Julian Saenz de Tejada; "Bosquejo Biográfico de Don Beltrán de la Cueva," by Rodríguez Villa; and "Boceto Histórico: Cánovas, su Pasado, su Presente y su Porvenir," by Saurín. The "Cancionero Basco" by Monterola, "La Danza, Poesía Bable" by Cuesta, "Las Libertades de Aragón" by Danvila, the "Discurso de la Comunidad de Sevilla" by Benítez de Lugo, "La Inundación de Levante" by Bermejo, and "Estudi de Toponímica Catalana" by Sanpere y Miquel, a work of great research, demonstrate that Galicians as well as Asturians, the Basques and the Catalans, are doing all they can to preserve their languages or dialects, and save their separate histories from oblivion. Laudable efforts of this sort are being made at Barcelona, where the cultivation of science and literature has lately made such progress as to render this great commercial city in many respects almost a rival to Madrid itself. Tarragona, Lérida, Gerona, and other towns of Catalonia, and generally of the "Coronilla de Aragón," are likewise making rapid progress.

SWEDEN.—Count Carl Snoilsky has issued a volume, "Nya Dikter" ("New Poetry"), which must be considered as the most notable collection of verse published in Sweden during the year. Its spirit is in an eminent degree patriotic. He deals with topics derived from Swedish history. The volume contains, besides, a great many poetical idylls and sketches of travel in Europe and Algeria. Noteworthy is a commentary, as it were, published by the lady who shares his wandering life.

Another younger poet, A. U. Bååth, not equal to Snoilsky but yet a genuine poet, has published a new volume. A mixture of verse and prose fills a volume entitled "Recollections from Youth and Travels," by the popular author N. P. Oedman, a work distinguished for vivacity and humor.

Two works of the older poets are worthy of mention, the first installment of F. W. Schölander's posthumous writings and G. Wennerberg's collected works. O. W. Böttiger's "Valda Dikter" ("Selected Poetry") and "Sjelfbiografiska Anteckningar och Bref" are posthumous publications. A memoir was published of Peter Fjellstedt, the missionary, by Mrs. Emilia Laurin.

In political history F. F. Carlson's great work, "Sveriges Historia under Konungarne af Pfalziska Huset," has now reached the beginning of the reign of Charles XII. Schinkel's

"Recollections of the Modern History of Sweden" has been continued for a great many years, but by different authors; the last installment, treating the years 1828-1835, is written by O. Alin. C. G. Starbäck's "Narrations from Swedish History," continued by P. O. Bäckström, are now concluded. The great illustrated "History of Sweden from the Earliest Times to the Present Day," compiled by different authors, is approaching completion. Four numbers of the sixth and last volume have already appeared. Among special works in political history J. Mankell's treatise on the policy of Gustavus II Adolphus, in which the author maintains the opinion that the King was influenced by the ideas of a conqueror rather than by those of a champion of faith, has aroused animated disputes. August Strindberg has commenced a work with the title, "The Swedish People during a Thousand Years," with engravings by Carl Larsson. The work caused great excitement in Sweden, and many polemical writings have followed.

Eichhorn has with a new volume, "Swedish Studies," contributed to the history of literature. To this department belong "Nektar och Gift," and the continuation of "Svenska Hofvets och Aristokratiens Historia," by Arvid Ahnfelt. Professor G. Ljunggren has published a new volume of his "Annals of Swedish Literature." A work of particular importance is "Philosophical Investigation in Sweden," by Professor A. Nyblæus. To the knowledge of the life and manners of the Swedish people Arthur Haze-

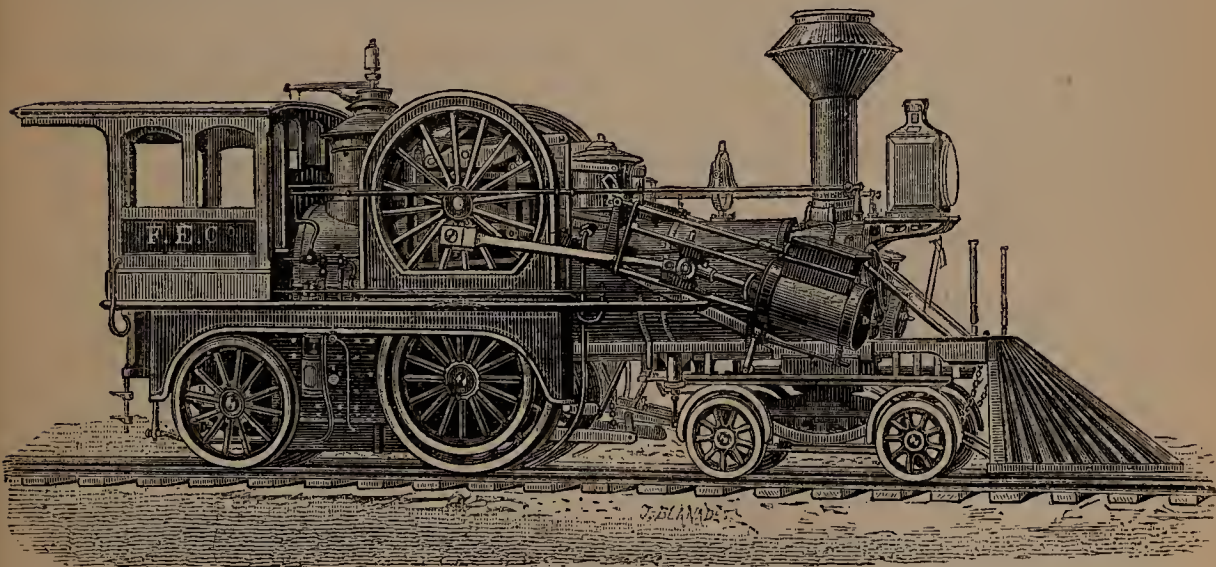
lius has made an important contribution by the publication of "Contributions to the Annals of our Culture," of which G. Retzius has written the first part, describing the ancient culture of Finland.

"Spada" has published a collection of lively and picturesque sketches made during a sojourn in the East. "From the Polar Circle to the Tropic," by "Jörgen" (Georg Lundström), contains, besides a quantity of interesting descriptions, a fair proportion of satire.

Mrs. H. Nyblom, the well-known novelist, has published a collection of tales, while two anonymous ladies have published, one a novel, entitled "Marianne," the other "From the Forest." A collection of "Stories and Fantasies" is by Ernst Lundqvist.

Nordenskiöld's celebrated work, "Vegas Färd kring Asien och Europa," has appeared both in Swedish and in several translations. It will be followed by several supplementary volumes, containing partly popular essays and observations by the partakers in the Vega expedition, partly strictly scientific treatises respecting the results of the voyage, to be published at the cost of the state.

LOCOMOTIVE WITH DUPLEX DRIVING-WHEELS. A new type of railroad locomotive engine, called from the name of the inventor the Fontaine locomotive, has been tested by practical use on the Canada Southern Railway. The results recorded in speed and duty are so remarkable as to have attracted the attention of engineers all over the world. The



THE FONTAINE LOCOMOTIVE.

construction is not only very peculiar, but conflicts apparently with the recognized principles of mechanics. Hence, when first described, the Fontaine locomotive shared the fate of many other important inventions: it was condemned on theoretical grounds, and even derided by high engineering authorities.

The peculiarity of the engine is that it has two sets of driving-wheels, one on top of the

other. The main driving-wheels in the Fontaine engines are secured to an elevated axle, above the boiler, and running in boxes supported by a suitably braced frame, the cylinder and piston-rods being set in an inclined position.

These driving-wheels are of the usual construction, but do not touch the rails. Resting on the rails are other driving-wheels of the

same size as the upper ones, with which there is a frictional contact. There being no resistance, when motion is communicated to the upper wheels, the same motion is transmitted to the lower ones by friction. The contact between the main driving-wheels, which are actuated by the machinery, and those which draw the train by the force communicated to them, is not at the outer periphery of the latter, which runs on the rails, but at a second tread, which is much smaller in diameter. By this device, although the circumference of the two wheels is about the same, the wheel which rolls over the rails revolves more rapidly than the upper one, which turns synchronously with the strokes of the piston.

To prevent slipping, an air-pump is employed, which is operated from the cab, and which acts on a system of levers, by means of which the frictional contact between the upper and lower drivers is diminished or increased, as occasion may require, without disturbing the bearing of the lower wheels on the rails. The engine is also provided with an equalizing truck, so as always to preserve the bearing on the rail. The parts are so arranged that the center of gravity of the locomotive will not be so elevated as to render it liable to leave the track in turning curves.

An increase of the speed of locomotives as ordinarily constructed can be attained only by an enlargement of the driving-wheels, or by an increase in the number of the strokes of the pistons. To enlarge the drivers beyond a certain limit is found objectionable, since by so doing the center of gravity of the locomotive is so elevated as to cause a swaying or gauge motion, and the locomotive is liable to leave the track, especially on curves; and it is found impracticable to materially increase the number of reciprocations of the piston, except at the expense of fuel and the straining of the boiler to carry steam at such a pressure as to overcome the expansion of steam in the cylinders.

By means of this ingenious and boldly novel manner of applying the power through auxiliary drivers, a large increase of speed is obtained from a given size of driving-wheel, without increasing the number of piston-strokes or the amount of fuel consumed. Or, at a constant rate of speed, a heavier load can be hauled with the same consumption of coal, owing to the completer development of the effective force of the steam. The Fontaine locomotive has a theoretical advantage over engines of the ordinary type of 80 per cent in speed or traction, and a practical gain of 30 per cent over engines of the same size is claimed to have been demonstrated. An engine of the new type has drawn a train over the Pennsylvania Railroad between New York and Philadelphia at the rate of 90 miles an hour. The second engine built on this model, made at the Grant Locomotive Works, in Paterson, New Jersey, has a total length of wheel-base of 21 feet 5

inches, being constructed for a track of 4 feet 8½ inches gauge. Its total weight, loaded, is 62,000 pounds; weight on the driving-wheels, 32,000. The driving-wheels are 70 inches in diameter, the friction-tread 56 inches in diameter, and the upper driving-wheel 72 inches in diameter. The stroke of the cylinder is 24 inches, diameter of cylinder 16 inches. The tank has 2,000 gallons capacity. There are 140 tubes, 2 inches in diameter and 11 feet long. The grate is 62½ inches by 33½; the total heating surface, 906 square feet.

LOCOMOTIVE, COMPRESSED-AIR. Several quite workable compressed-air motors have been tried and put into practical employment upon street-railroads with partial satisfaction in France, Belgium, Great Britain, and the United States. None of the devices for the use of compressed air thus far invented has stood, however, the practical and commercial tests of utility and economy, although every effort was made in the cases of some of these to make them succeed. Notably, the Mekar-ski air-engine, which was tried in Paris, received abundant financial support, and was only abandoned after a thorough trial. Scott Moncrieff, of Glasgow, built an engine from which good results were obtained as far as its mechanical workings were concerned, but which never advanced beyond the experimental stage. The idea was not likely to be abandoned, however, after many failures, on account of the peculiar adaptation of compressed air to mechanical motors for street-railroads. Steam is too destructive and uncontrollable an agent to be used directly on street-railroads, aside from the serious inconveniences of smoke and noise, which no devices yet invented have been able to obviate to a sufficient extent.

The employment of compressed air as a vehicle for storing up mechanical energy to be used at a future time or at a distance is attended by two serious difficulties. The first is the technical difficulty of the construction of reservoirs and joints so hermetically tight as to prevent leakage, and the fatal loss of power which it entails if the motive power is to be stored up for any length of time or transmitted any distance. The second difficulty is due to a universal property of gaseous matter, explicable by the kinetic theory. The application of pressure to any æriform fluid is attended by a rise in temperature and a proportionately greater resistance to be overcome in obtaining a given degree of compression. If the compression is performed very slowly and gradually, no increase in the sensible heat of the gas occurs, and consequently no loss of power; but it is impracticable to conduct the operation with such extreme slowness that the molecules of the gas are not excited to greater kinetic activity, which is the cause to which the excess in the increase of pressure due to rapid compression, the increase which is attended by a rise in temperature, is attributed. The compression which takes place at such a rate

as to produce heat is called adiabatic compression; while that which is slow enough to allow the molecular particles to accommodate themselves to a more crowded condition, to shorter paths and more frequent impact, without causing the disturbance, the temporary acceleration of molecular velocity and augmented violence of impact, which is marked by a rise in temperature, is denoted isothermal compression. If the energy stored in the elastic fluid were instantly utilized, the work performed would be the same, whether the pressure were idiobatic or isothermal; but if there is a sufficient interval allowed to lapse for the energy which has been converted into heat to be lost by the radiation of the extra heat, there is a waste to the extent of the power required to produce the elevation of temperature. A corresponding loss of energy takes place in the application of the stored-up power, which must from the nature of the case be rapid also, and a rapid expansion is attended by a diminution of the potential energy equivalent to the loss resulting from an equally rapid rate of compression. This is due to the reduction in the temperature produced by sudden expansion, which lessens the elastic tension of the fluid in a corresponding degree. This double loss of efficient power attends every employment of condensed air for the preservation for future use or for the transmission of mechanical energy. It is used in mines for drilling, not because it is an economical power, but because it can be so handily applied and so readily regulated. There are reasons which would make the use of compressed-air locomotives desirable for some purposes, though they should consume considerably more fuel than steam locomotives. French and Belgian engineers some time since discovered a method of neutralizing the changes in temperature due to compression and expansion, and thus increasing the duty of pneumatic engines considerably. They kept the compression and expansion isothermal by artificial means, injecting a spray of cold water into the compression-cylinder and a spray of hot water or a jet of steam into the expansion-cylinder. It was only a partial remedy, since the heat of compression, which is absorbed by the particles of cold water, is not utilized, nor is the heat that is imparted to the hot water which is introduced into the expansion-cylinder to keep up the temperature and effective force of the compressed air while undergoing expansion. Yet it served to preserve the kinetic equilibrium of the gas, and enhanced very materially the efficiency of the air-engine. The loss of power attending this artificial method of equalizing the temperature, and making the tension of the confined air vary uniformly with the pressure applied, is not very great; and, what is of the highest importance as regards the employment of compressed air in locomotives, it is proved by theory and substantiated in practice that this loss is directly proportional to the degree of compression.

The size and weight of the reservoirs and other apparatus consequently depend in a great measure upon the degree of compression which can be practicably attained. An improvement upon the Continental method of maintaining a steady temperature in the air under pressure has been in use for some time in the pneumatic apparatus of the Royal Arsenal at Woolwich, England, used for compressing air to a high degree of pressure for the propulsion of torpedoes. The injection of the spray into the cylinders requires the use of valves and other attachments. More or less leakage will occur through the joints. If the compressed air is used at a high degree of pressure, this would prove a fatal defect. To obviate this leakage, the Woolwich engineers employed in place of the injecting apparatus a simple jacket of cold water around the compressing cylinder. This technical improvement, allowing of the use of compressed-air power at very high pressures, led Colonel Beaumont, of the Royal Arsenal, to the study of a system of compressed-air locomotives worked under extreme pressure, in virtue of the principle that high degrees of compression, when kept isothermal, are obtainable at virtually no greater relative cost than lower pressures. He obviated the loss of power in expansion by steam-jacketing the expansion cylinders, which improvement afforded all that was wanting for the isothermal compression and expansion of air at high pressures. Colonel Beaumont has employed himself a long time upon the elaboration of his system of compressed-air motors, and has developed an air-locomotive which works satisfactorily as far as experimental tests can show, and in long and searching trials has not only proved itself practicable, but in the points of reliability, durability, manageability, noiselessness, and, above all, of economy, it appears to be a complete success, which promises to remove the question of a compressed-air locomotive-engine finally out of the category of mechanical problems.

Colonel Beaumont has built an engine which performs the trip from the arsenal to Dartford and back, a total distance of about thirty miles, with one charge of compressed air, taking sixty-three minutes. His locomotive weighs ten tons. It can carry a load of sixteen tons up a moderate grade. The reservoir is charged with one hundred cubic feet of air under a pressure of one thousand pounds on the square inch. The first locomotive made on his system had three cylinders on each side for the purpose of expanding the air down. It is parted with in the last at little above atmospheric pressure. He uses no expanding apparatus to reduce the pressure before turning on the air, but lets it into the cylinders at the full pressure of one thousand pounds. The cylinders are completely air-tight practically, being able to retain the charge for several hours without any material reduction of pressure. The form first used consisted of a number of strong tubes con-

nected by cross-pieces. A later form consists of a welded cylindrical vessel with only one opening serving for both inlet and outlet, closed by a spindle-valve, with conical seating, similar to an ordinary safety-valve. The six cylinders are reduced to four in a newer form of the locomotive. Colonel Beaumont claims for his system an economy equal to or greater than that of the steam locomotive-engine. The fact that the work done by the ordinary locomotive requires three sets of machinery in a compressed-air locomotive—the engine for driving the compressing apparatus, the compressing apparatus itself, and the expansion-engine which drives the locomotive—militates against such a claim. The advantage of the stationary steam-engine over the locomotive steam-engine amounts to the difference between $1\frac{1}{2}$ pound of coal per horse-power per hour, which is the highest duty yet attained, and three pounds per horse-power per hour, which is the consumption in Daniel's locomotives. This economy must be more than counterbalanced by the friction of the triplex machinery, the cost of the jacketing, etc. There is, however, a considerable saving in dead weight in the substitution of air for water and in the reduced size of the vessels and apparatus. A joint-stock company has been formed in England for the purpose of making and working the Beaumont air-engine. The advantages of being free from all smoke, having no fire, and making no smell, being comparatively noiseless, of being perfectly safe from the danger of explosion from the exhaustion of water in the boiler, of running no risks of the tubes leaking or the feed-valves sticking, commend it as a great improvement over the steam-locomotive for use in streets, or in long tunnels.

LONGFELLOW, HENRY WADSWORTH. (See "Annual Cyclopædia" of 1882.)

LOUISIANA. The Constitution of Louisiana, adopted in 1879, provides for a session of the Legislature in 1880, and there is no provision for any other before January, 1883. The Governor of the State, however, found it necessary to call a special session "to enact laws making appropriations to defray the ordinary expenses of the government, to pay the interest on the public debt, to support the public schools, universities, and public charities in the State of Louisiana for the years 1882-'83, to make appropriations concerning the State-House, for the redemption of State-House warrants, and for the removal of the seat of government," and other purposes.

The Legislature accordingly assembled at New Orleans on December 5th, in special session. The President of the Senate, and *ex-officio* Lieutenant-Governor, W. A. Robertson, presided in that body; and Speaker Ogden, of the former session, presided in the House. The message to the Legislature came from the Lieutenant-Governor, S. D. McEnery, in consequence of the recent death of Governor Wiltz. This event, as also the death of Presi-

dent Garfield, were, in the message, very kindly presented, as follows:

Before alluding to the particular subjects which are submitted to the General Assembly, it devolves upon me to announce to you, officially, the great national calamity which visited the people of the United States in the death of the Chief Magistrate, James A. Garfield, on the 19th day of September, 1881. He had gone into office under exceptionally favorable circumstances, and much was expected from his administration. Political dissension had engendered sectional hostility, but on the accession of the late President there was a general confidence among the people that his administration would be conservative, just, and impartial, and its termination was looked forward to with anxious hopes that with it would cease all sectional animosities, and that one section of the Union would no longer traduce the other, solely for the purpose of acquiring political power and dominion. It was this belief, which had grown and strengthened each day as his administration progressed, that caused the people of this State, in every city, town, village, and hamlet, to give expressions of genuine sorrow and grief at his untimely death.

In the State of Louisiana we have been overtaken by a misfortune which has weighed heavily upon our people, the death of our young Governor, Louis Alfred Wiltz, in the thirty-eighth year of his age. He had long been in public life, commencing at an early age. Few men of his years had the same varied experience in all the departments of government, from the lowest to the highest, all of which he filled in succession. His promotion was from one position to another in regular progression, thus showing that he has filled all places to the credit of himself and to the advantage of the public. As was said in the proclamation announcing his death, the people of Louisiana "will revere the name of him who always strove to pay with honest service for every honor received."

On the 17th day of October, in pursuance of Article LXII of the Constitution, I took the oath of office as Governor of Louisiana.

The chief objects of the special session were to provide an adequate revenue for the State, and to make the required appropriations, and thus render the financial condition more satisfactory. The expenditures largely exceed the revenues. The appropriations against the general fund for 1880 and 1881 amount to \$1,423,829.71. The revenue from licenses and taxes, general fund, for the same period, actual and estimated, amounts to \$758,944, showing a difference between the estimated revenue and the appropriations of \$664,885.71.

The constitutional limit of taxation is not the cause of this deficiency. The revenue derived under that limit would be more than sufficient, if collection of taxes could be made to operate upon the taxable property of the State. The revenue laws from year to year have been progressively growing less efficient. Large amounts of property, movable and immovable, have escaped taxation. There is no uniformity anywhere in the State. As a consequence, some portions are paying on a high valuation a large tax, while others on low assessments are paying but a small tax. The valuation on productive real estate of the same grade varies from five to twenty dollars per acre. There is a universal demand for remedial legislation. The remedy is plain, and the means pointed out by the Constitution are ade-

quate. A recent convention of collectors and assessors demonstrated that, under the present system, no equitable assessment could be made, nor could the collection of taxes be adequately enforced. Those paying on the highest valuation were really paying four times the tax on the same grade of land that is paid in a neighboring parish. In some localities the revenue of the property is taken for its actual value, and the assessment is made accordingly. Thus, when a piece of property yields a revenue of \$40,000, it is assessed at the same figures, when its assessment in reality should be not less than three times that amount. The State Commissioner of Agriculture estimates the annual productive capacity of this State, from agricultural products, to be \$75,000,000, and, if the same improper rule were to be followed, the assessment-rolls should show only this amount.

The Constitution intended to secure a revenue from licenses, and to so graduate the system as to make every calling pay only its just proportion to the support of the government. But the provisions of the present law operate so as to defeat the intentions. While there may be a uniformity of grade among the same class, it so discriminates as to others as to be very unequal and unjust. Occupations which ought to contribute a large sum pay comparatively nothing, while the burden falls on those who derive the smallest income from their occupation. The largest capitals pay comparatively the smallest license-tax.

The amount derived from licenses under the present law is \$200,000; under the former system the revenue from this source was \$400,000. The forfeited and delinquent property for non-payment of taxes has been continued on the assessment-rolls for the current years, and there is some doubt about selling this description of property for the taxes of 1880-'81, lest the State should lose the back taxes. An act provided for the sale of this property on the first Saturday in each month, and from day to day thereafter. There are very few parishes—not more than three—in which this provision of the law has been complied with. In nearly every case the sale has been made on a different day. Valuable properties, on which the State had a claim for taxes, have been sold for insignificant sums, the owners being generally the purchasers. These sales are declared to be absolutely null and void, having been made in violation of law. It is estimated that the back taxes amount to nearly \$5,000,000.

In the parish of Orleans there are judgments for taxes and licenses to the amount of \$600,000. The Attorney-General states that it is difficult to execute the judgments in these cases, because some have been settled, and it does not appear from the records what payments have been made. Therefore legislation is necessary to provide the means for the employment of experts to investigate these judgments, and ascertain which of them are in force.

The Governor speaks in his message in enthusiastic terms of the prospects of the State: "The outlook for the State is most hopeful. The advantages of soil and climate are nowhere else equaled. No country presents such advantages of water communication. Nearly every locality is reached by a navigable stream. Their resources are attracting attention, and despite adverse circumstances a wonderful development of those resources is going on. Trade and commerce are increasing, extended railroads are in process of construction, and manufactures are attracting universal attention. Immigration begins to turn toward the State. A most amicable feeling exists between the two races. Race prejudices have subsided, and the people, white and colored, are a unit in striving to develop the resources of Louisiana. Recent investigations have shown that nearly every vegetable, plant, and tree that springs from her soil can be utilized and made profitable. In fact, there is a wonderful diversity in our products of fruits, cotton, sugar, rice, corn, and other cereals, while valuable fibrous plants are now being introduced. Attention is being given to stock-raising in some of the parishes, and in a few years our stock-raisers will be able to supply the home demand for horses and mules. The future for Louisiana is a grand one. It does not seem chimerical, when we look at our extraordinary advantages, to anticipate a future maximum production to the value of \$500,000,000 per annum.

"There is no reason, then, for the continued cry of 'Poor Louisiana and her impoverished people.' We must realize the fact that she is rich, and force her to the front rank of States. Her assessment-roll for 1880 shows a valuation of \$177,096,459.72, and for 1881, \$181,660,291.32. This is wrong and should be corrected. Such valuations do us no credit. When the property of this State is thoroughly assessed, even at two thirds of its value, it will show a valuation of quite \$300,000,000. The constitutional limit on taxation will then be more than sufficient. The tax rate can then be reduced, the State government sustained, and our State debt annually decreased. Confidence will be restored, our bonds will be on the market at a reasonable interest, commanding a premium; capital will rapidly find its way here, and we will no longer be humiliated at the low credit of our State."

The first act passed at the extra session, beginning December 5, 1881, is an appropriation of \$27,080 to defray its own expenses. The second and third acts authorize the State Treasurer to pay over the old balance belonging to the seminary fund to the Louisiana State University, and provides for repairs of the university buildings at Baton Rouge. The fourth act appropriates \$126,302.17 to complete the restoration of the Capitol at Baton Rouge. The fifth act makes appropriations for the ordinary expenses of the government, interest on the public debt, public schools, and public chari-

ties, for six months until July 1st. It provides for the salaries and other expenses of the executive and judiciary departments out of the general fund. It orders payment out of the interest tax fund of "reduced interest on coupons of consolidated bonds, under the provisions of the constitutional ordinance relative to the State debt, \$120,000, or as much thereof as may be necessary to pay the interest on that portion of the State debt already stamped or converted, and that which may be stamped prior to July 1, 1882." The sixth and last act of this session created a printing board.

Having ended by limitation of time without completing the revenue and license bills, a second extra session was called by the Governor, and commenced on the 26th of December. The Legislature now passed its third act providing for the investing of the interest tax fund in the hands of the fiscal agent of the State, in bonds of the United States Government, and providing for the payment of the reduced interest due or to become due on the bonds of the State.

The Constitution of 1879, it may be remembered, presented this alternative to the bondholders: either to retain the face of the bonds, the interest being reduced to 2 per cent, or to have the bonds reduced to seventy-five cents on the dollar, and receive 4 per cent on them. As the State debt amounts in round numbers to \$12,000,000, at 2 per cent interest, \$240,000 are required to pay the interest. If reduced to \$9,000,000 at 4 per cent interest, \$360,000 are necessary. As the rate of taxation at present is limited to one mill, and the assessed value of taxable property is \$181,000,000, only \$181,000 can be collected to pay the interest. A yearly deficit, which may vary from \$59,000 to \$179,000, must exist. The sole constitutional remedy for this lies in an increase of assessments. These are notoriously low. Neither of the extra sessions of this year met the vexed question to which their attention was directed in the Governor's message, and which the Constitution relegated to the Legislature. No board for the equalization of assessments is yet established, and the year closed with the Legislature still in session.

There was no serious civil or social disturbance during 1881. An organized strike occurred in New Orleans on the 1st of September, which interfered with commerce, and at one moment seemed to threaten the peace of the Commonwealth. The militia, at the request of the mayor, was called to protect the armories and assist the police in maintaining order. But an amicable compromise was effected between employers and employed, and on the 15th of September order was restored without a resort to force. There has been no exodus during the year, or any disturbed relations between the white and the colored populations.

The absence of general and municipal elections during the year has been favorable to tranquillity. The interruption of industry by

their frequent recurrence, and the distraction which they require from sober pursuits, are great evils. The fact is admitted that the people are the source of political power; that they govern through their appointed agents, who are responsible to them; but it is important that these facts should not be concomitant with idleness, dissipation, debauchery, and corruption, which seem to be consequents upon many elections in the States of the Union.

Nothing in the relations between Louisiana and her sister States is noteworthy, unless it be that the State of New York commenced a suit, in the Supreme Court of the United States, to recover \$1,050, the amount of thirty coupons detached from bonds issued by the State of Louisiana in 1874. In the year 1878 a bill was passed through the Legislature of New York to authorize any citizen to transfer an overdue written obligation of any other State to the State of New York, and that, upon being secured in the payment of costs and expenses of the suit, her Attorney-General should bring suit for its collection. This bill did not meet the approbation of the Governor, and was defeated. The veto of Governor Robinson was emphatic, and his message is worthy of preservation:

STATE OF NEW YORK, EXECUTIVE CHAMBER, }
ALBANY, June 14, 1878. }

Memorandum in brief of the reasons for disapproving Senate Bill No. 292, entitled "An act to protect the rights of citizens of this State holding claims against other States."

The Constitution of the United States does not permit a citizen to sue a State in the United States courts. This bill attempts to evade that provision by authorizing a citizen of this State, holding any obligations of other States, to assign his claims to the State, and to be prosecuted in the name of the State by the Attorney-General for the benefit of the individual. In other words, it requires the State to lay down its dignity, its honor, and its integrity as a sovereign State of the Union, and to become a collecting agent for speculators in State bonds, or written obligations against other States, and in so doing to evade the Constitution, and to assume a false position by prosecuting claims in which it has no interest whatever.

(Signed) L. ROBINSON.

An act with the same title was introduced the following year into the General Court of New Hampshire, and adopted. In 1880 the Legislature of New York passed the former act, and there was no veto. It is under this last act that the suit of New York was commenced in April last. In 1881 a bill under this same title was introduced into the Legislature of Massachusetts, but that Commonwealth rejected it. These suits are pending in the Supreme Court of the United States. The Constitution of the United States has jurisdiction to determine controversies between the States. The controversies heretofore determined have related to subjects of jurisdiction and boundary, which disturbed the colonies, and were inherited by the States. The question which will be decided by the Supreme Court is presented in a very forcible manner in the above-cited message of Governor Robinson.

These suits exhibit the fact that the finances

of Louisiana are still in a state of embarrassment, and her resources have been greatly diminished. The same conditions exist to a still larger extent in her most important city. Suits against the city of New Orleans, in the United States court, have been decided adversely, and the court has compelled the council, by mandamus, to levy a tax for payment of these judgments. The Constitution of 1879 limited the taxing power of the city to ten mills. This was a measure of repudiation, and it was overruled immediately afterward by a decision of the Supreme Court of the State, requiring the levy of a tax, over and above the ten mills, of five mills to pay the interest on its premium bonds. The present assessment of taxable property reaches \$103,177,249.71. On this there is a tax of fifteen mills, to which will be added a further tax of $16\frac{1}{2}$ mills, making a total tax of $31\frac{1}{2}$ mills for 1882. On the 31st of December, 1881, the Administrator of Public Accounts of the city computes its total bonded and floating debt at \$16,872,220.69. Of this, \$14,473,301.84 represents the bonded debt.

The government of the State and of the city, from 1860 to 1876, was in no particular normal or responsible. There was during this period, on the part of the authorities, an eager and irrepressible desire to borrow money, without much reference to the object, and with no care as to the means of payment. The fact that in the civil commotions the accumulated capital of the State, the moneyed and industrial corporations, many of the virile population, had been destroyed, was not estimated. Nor were the conditions of general poverty and distress considered of importance.

The returns of the census for the last decade show that Louisiana is occupied by two distinct races, which differ in complexion and, in a great measure, in all other conditions that affect men in society, historical traditions, associations, modes of life, habits, aspirations, yet with perfect political equality. Time must be allowed before the race not versed in the art of government, either of self or the nation, can fit itself for these responsibilities. Nor can it be a surprise that important legislative questions of State finance, intimately connected with State honor, should be decided as if the wise and just, for the time being, were in a hopeless minority.

This year has been free from any continuance of the exodus. The principal subjects of anxiety arose out of the vicissitudes of the climate. In January the weather was unusually severe, especially in Southern Louisiana. The prospects of the orange-crop were destroyed. The sugar-crop was much injured. It will not probably reach beyond half that of the previous season. During the year ending September 9, 1881, 273,000,000 pounds of sugar were raised in Louisiana, of which 174,644 hogsheds and 47,435 barrels reached the port of New Orleans, together with 272,962 barrels of molasses. There are 1,144 sugar-houses in the State,

871 of which employ steam, and 129 vacuum-pans. The rice product to September 1st was 22,000 barrels of clean rice, against 31,000 for the preceding year—a production of 48,185,000 pounds of rice. This is one of the growing industries of a State which has over 70,000,000 acres of land fitted for rice-culture. The cotton-crop for 1880-'81 reached 6,589,329 bales, of which 1,586,000 were received in New Orleans.

Additional barge transportation on the Mississippi and the elevators at New Orleans have been built to accommodate its growing grain-trade, which has been as follows, in bushels:

SEASON.	Corn.	Wheat.	Rye.
1878-'79.....	3,593,832	1,901,929	272,504
1879-'80.....	9,112,077	5,254,805	63,704
1880-'81.....	9,137,373	6,523,747	45,423

Shipped in 1879-'80 on 186 steamships and 133 sailing-vessels.
 " 1880-'81 on 228 " and 116 "

The tobacco receipts reached 11,584 hogsheds, of which 9,527 were exported. The cultivation of a species of tobacco of peculiarly fine flavor, known as *Perique*, is gradually dying out. The *Perique* tobacco-plant is indigenous and confined to a small district in St. James Parish, three miles from the Mississippi River and about fifty-five miles above New Orleans. It is a French settlement, wholly given to this one culture. All efforts to produce it elsewhere have failed. The leaves are plucked from the stem and never permitted to dry. After four months of careful manipulation it is fitted for market. No foreign substances are used in its preparation; it owes its flavor to its intrinsic qualities and to that particular soil. The press used is of the most primitive construction. The tobacco is made up into rolls, or "carrots," of about four pounds each. There are three grades, the finest of which is consumed by the planters themselves; the next quality is employed by cigarette-makers. The revenue paid on it is sixty-three and a half cents a pound, in lieu of sixteen cents on other tobaccos which are not stemmed like *Perique*. In consequence of these exactions the product is declining. Nineteen planters have abandoned it, and there are only sixteen engaged in what was once a lucrative business. A bill was introduced into Congress permitting the transportation of *Perique* in bond. It failed, probably from the small influence brought to bear in its favor. Unless some similar measure revive it, *Perique* will soon be a thing of the past. The last crop only reached 10,000 "carrots," or 40,000 pounds. The fostering of small industries and the development of many minor cultures, instead of the absorption of all endeavor in the great staples, would enhance the prosperity of Louisiana. For instance, in the neighborhood of Natchitoches the truffe is indigenous, and might become a source of profit. Madder grows luxuriantly. Cochineal-culture might well be made profitable where the aloe flourishes as it does in lower Louisiana. The soil is too spongy

for the olive, which loves the driest hill-sides. The cotton-seed produces an oil which is manufactured to a large extent in New Orleans. Refined, it compares well with olive-oil in flavor, and is exported to Europe in large quantities and employed to adulterate olive-oil. During the past year a process has been invented by which it can be manufactured into a species of vegetable butter. The *Morus mul-ticaulis*, the mulberry-tree on which the silk-worm thrives, grows in Louisiana, and during the year much attention has been paid to the breeding of the worms, with a view to engaging in silk-culture.

The State has not suffered from any pestilential diseases. The temperature during the summer, though high, was uniform. It is the rapid vicissitudes of heat and cold, moisture and dryness, apparently, which give support to pestilence and propagate climatic disorders.

Commerce, relieved of this check, has flourished. The imports, during the fiscal year ending September 1st, amounted to \$12,413,270, against \$10,915,042 for the preceding twelve-month. The exports reached \$104,150,450, against \$93,335,880 for 1879-'80.

The jetties maintain their complete success. A recent survey shows that the shallowest spot in the channel gives a depth of twenty-six and a half feet, while between the jetties themselves there is nothing shoaler than thirty feet.

The principal feature in the annals of this year is the railroad development. The connection between New Orleans and the Pacific Ocean has been perfected. The last spike needed was driven at Blanco Peak, about ninety miles east of El Paso, on the 1st day of December, at an altitude of some five thousand feet above the city of New Orleans. The Texas Pacific began at Fort Worth, and five hundred and twenty-one miles were built in five hundred and twenty-one days, uniting with the Southern Pacific at Blanco Junction.

What is known as the Erlanger Syndicate

have made their arrangements to enter New Orleans. This line of railroad will connect the city directly with Cincinnati. The line of railroad extends from New Orleans to Meridian in Mississippi, and thence through Tuscaloosa, Birmingham, and Chattanooga. This connection is new, and the traversing of so wide a lake as Maurepas by a railroad is deemed a feat in engineering. This syndicate is completing the connections of Shreveport and Vicksburg, and these with Savannah and Brunswick. The completion of the railroads into Texas brings New Orleans in connection with the Nueces and into prospective connection with Tampico and the city of Mexico.

According to the census of 1880, Louisiana is the twenty-second State in population in the Union. It numbers 939,946 souls. The city of New Orleans has a population of 216,140. It is generally conceded that this is an underestimate, the census having been taken in June of the summer succeeding the epidemic of 1879, when there was a large absenteeism due to the possibility of a recurrence of the scourge.

The negro population shows a more rapid increase than the white in all the Southern States, Alabama alone excepted. In Louisiana the census shows a gain of 26 per cent in the whites, while 33 per cent is the negro gain.

The public schools in Louisiana suffer from irregularity in payments, and throughout the country parishes from the sparseness of population, who live on distinct plantations, and are not often gathered into considerable villages and towns. The city of New Orleans was divided into three public-school districts, each with a separate board of directors, at the time of its consolidation. Two hundred thousand dollars are annually appropriated by the city for the support of these schools. From 1874 to 1882 the city was in arrears \$481,719.70.

The following statement shows the population of the State, by parishes, in 1880 and 1870:

PARISHES.	1880.	1870.	PARISHES.	1880.	1870.	PARISHES.	1880.	1870.
Ascension	16,895	11,577	Jackson	5,223	7,646	Saint James.....	14,714	10,152
Assumption.....	17,010	13,294	Jefferson	12,166	17,767	Saint John Bap- tist.....	9,686	6,762
Avoyelles.....	16,747	12,926	Lafayette	13,235	10,388	Saint Landry....	40,004	25,553
Bienville.....	10,442	10,636	Lafourche.....	19,113	14,719	Saint Martin.....	12,603	9,370
Bossier.....	16,042	12,675	Lincoln	11,075	.....	Saint Mary	19,891	13,860
Caddo.....	26,206	21,714	Livingston.....	5,253	4,026	Saint Tammany..	6,887	5,586
Calcasieu.....	12,434	6,733	Madison.....	13,906	8,600	Tangipahoa.....	9,638	7,923
Caldwell.....	5,767	4,820	Morehouse.....	14,206	9,387	Tensas.....	17,815	12,419
Cameron.....	2,416	1,591	Natchitoches...	19,707	18,265	Terrebonne.....	17,957	12,451
Catahoula.....	10,277	8,475	Orleans.....	216,090	191,418	Union.....	13,526	11,685
Claiborne.....	18,337	20,240	Ouachita.....	14,685	11,532	Vermillion.....	8,723	4,523
Concordia.....	14,914	9,777	Plaquemines...	11,575	10,552	Vernon.....	5,160	.....
De Soto.....	15,603	14,962	Point Coupée... Rapides	17,785 23,563	12,931 13,015	Washington.....	5,190	3,330
East Baton Rouge	19,966	17,316	Red River.....	8,573	.....	Webster.....	10,005	.....
East Carroll.....	12,134	.....	Richland.....	8,440	5,110	West Baton Rouge.....	7,667	5,114
East Feliciana...	15,132	13,499	Sabine.....	7,344	6,456	West Carroll....	2,776	.....
Franklin.....	6,495	5,073	Saint Bernard... Saint Charles...	4,405 7,161	3,553 4,867	West Feliciana..	12,809	10,499
Grant.....	6,133	4,517	Saint Helena....	7,504	5,423	Winn.....	5,846	4,954
Iberia.....	16,676	9,042						
Iberville.....	17,544	12,347						
State							939,946	726,915

LUTHERANS. The following is a summary of the statistics of the synods and the general bodies of the Evangelical Lutheran Church in

the United States, as given in the "Lutherische Kalender" of Brobst & Diehl, Allentown, Pennsylvania, for 1882:

SYNODS.	French- ers.	Congre- gations.	Communi- cants.
GENERAL COUNCIL.			
1. Ministerium of Pennsylvania . . .	202	394	85,690
2. Ministerium of New York	70	86	25,924
16. Pittsburg Synod	74	142	12,876
25. Synod of Texas	30	37	5,358
32. Evangelical Lutheran District Synod of Ohio	31	61	6,419
34. Swedish Augustana Synod	147	332	41,976
36. Michigan Synod	25	49	5,464
38. Canada Synod	25	60	7,000
39. Holston Synod	13	25	1,513
49. Indiana Synod	14	28	2,106
	631	1,214	194,656
Not yet officially connected with the General Council:			
23. German Synod of Iowa	161	270	25,000
35. Norwegian Augustana Synod	22	53	7,000
	814	1,537	226,656
SYNODICAL CONFERENCE.			
20. Joint Synod of Missouri and other States	739	970	154,522
23. Synod of Wisconsin	97	159	26,219
26. Norwegian Synod	182	503	69,420
37. Synod of Minnesota	39	62	6,026
56. English Evangelical Lutheran Conference of Missouri	7	8	400
	1,055	1,792	256,587
GENERAL SYNOD, SOUTH.			
3. Synod of North Carolina	25	49	4,725
7. Synod of South Carolina	36	52	5,536
9. Synod of Virginia	30	55	4,150
15. Synod of Southwest Virginia	23	44	2,557
31. Mississippi Synod	6	9	865
40. Synod of Georgia	8	13	1,100
	128	222	18,463
GENERAL SYNOD.			
5. Synod of Maryland	63	103	12,614
8. Synod of West Pennsylvania	64	112	13,230
10. Hartwick Synod	29	32	4,056
11. East Ohio Synod	42	70	5,030
12. Franckean Synod	24	35	2,874
13. Alleghany Synod	63	141	12,560
14. East Pennsylvania Synod	72	112	13,997
17. Miami Synod	28	37	3,406
21. Wittenberg Synod	33	64	6,200
22. Olive Branch Synod	19	25	1,701
24. Synod of Northern Illinois	33	41	2,129
27. Synod of Central Pennsylvania . . .	37	73	7,140
29. Synod of Iowa (English)	25	31	1,279
30. Synod of Northern Indiana	41	78	3,550
33. Synod of Southern Illinois	10	13	1,015
41. Central Illinois Synod	23	32	1,835
42. Synod of N. York and N. Jersey . .	51	39	6,195
43. Susquehanna Synod	32	65	6,963
44. Pittsburg Synod	29	54	4,455
46. Kansas Synod	33	31	1,042
48. Nebraska Synod	25	32	1,747
54. German Wartburg Synod	37	43	5,600
57. Middle Tennessee Synod	14	15	1,056
	847	1,238	124,734
INDEPENDENT SYNODS.			
4. Joint Synod of Ohio and other States*	197	312	47,550
6. Tennessee Synod	25	30	7,331
13. Buffalo Synod (Grabau's)	19	22	3,200
45. Hauge's Norwegian Ev. Luth. Sy. . .	22	30	6,000
47. Conference of Norwegian Danish Lutheran Church	63	330	21,261
50. Danish Ev. Luth. Ch. in America . .	22	70	4,000
51. Swedish Ev. Luth. Ansgari Synod . .	33	45	1,200
52. Augsburg Synod	13	20	3,000
53. Immanuel Synod	5	8	1,350
55. German Evan. Lutheran Synod of Maryland	8	..	1,420
Pastors unconnected with a synod . . .	43	50	15,000
	455	1,026	111,862
Total for the whole Lutheran Church in America	3,299	5,865	738,802

* Withdrew from the Synodical Conference in September, 1881.

Increase during the year, 125 pastors, 182 congregations, and 37,884 communicants.

The "Kalender" enumerates as belonging to or connected with the several branches of the Lutheran Church, 20 theological seminaries, 16 colleges, 23 seminaries and academies, 14 seminaries for young women, 33 benevolent institutions (for orphans, the infirm, sick, and immigrants), and 78 periodical publications, of which 28 are in the German, 26 in the English, 6 in the Swedish, and 18 in the Norwegian and Danish languages. The General Council and the General Synod have each a committee of foreign missions and a committee of home missions; the Missouri Synod has a freedmen's mission, and the Swedish Augustana Synod has a mission among the Indians.

The growth of the Lutheran Church in the United States has been very rapid, in consequence of the accessions by immigration. In 1823 there were returned 178 pastors and 900 congregations; in 1845, 22 synods, 538 pastors, 1,307 congregations, and 135,629 communicants; in 1860, 36 synods, 1,193 pastors, 2,279 congregations, and 232,780 communicants; in 1865, 42 synods, 1,559 pastors, 2,825 congregations, and 310,677 communicants; in 1870, 48 synods, 2,016 pastors, 3,330 congregations, and 396,567 communicants; in 1875, 53 synods, 2,546 pastors, 4,559 congregations, and 559,119 communicants; and in 1880, 58 synods, 3,087 pastors, 5,376 congregations, and 689,195 communicants.

The thirtieth biennial convention of the *General Synod* met at Altoona, Pennsylvania, June 8th. Delegates were present from twenty-two synods, leaving two synods unrepresented. Professor Charles A. Hay, D. D., of Gettysburg, Pennsylvania, was chosen president. The attention of the synod was given principally to the consideration of the interests of its benevolent enterprises and boards. The *Board of Church Extension* reported that its receipts for two years had been \$20,901, of which \$6,097 had been received for general funds and \$14,804 in the form of special gifts. Recommendations that permission be no more granted to congregations to appeal to the churches for their own behalf except through the board, and that all funds contributed for church extension be paid to the treasury of the board and adopted by it, were approved by the synod. The *Board of Publication* had received from sales during two years and nine months, \$98,822; it was out of debt, and was possessed of assets having a net value of \$47,751. The *Theological Seminary* at Gettysburg, Pennsylvania, had a productive endowment of \$80,000, yielding a revenue of from three to four per cent, with an unproductive endowment of \$20,000, and reported thirty-seven students in its classes. The synod decided to establish without unnecessary delay an institution for exclusively German theological education, to be situated for the present at Carthage, Illinois, and to be under the control of a board of directors ap-

pointed by the General Synod and by such district synods as may unite in its support. The curator of the *Lutheran Historical Society* reported that a number of valuable books and papers had been received by that institution. The receipts of the *Board of Home Missions* for two years had been \$27,035. It had conducted sixty-five missions in different parts of the United States, in which 1,093 accessions were reported, and which had contributed \$82,208 toward their own support and to the funds of the church. Eight of the missions had become self-sustaining and two had been discontinued. The synod decided that the sum of \$25,000 should be raised annually for home missions and \$15,000 for church extension. A board of seven persons was appointed to represent the synod in the work of the Emigrant Mission at Castle Garden, New York. The Orphans' Home at Loysville, Pennsylvania, had received \$11,397, and had fifty church orphans and sixty-three soldiers' orphans in charge. The *Board of Foreign Missions* reported that its receipts from May 31, 1879, to March 31, 1881, had been \$32,014, and its expenditures \$29,782. The Woman's Missionary Societies had paid \$1,506 and the Children's Foreign Missionary Societies \$2,837 into its treasury. The board asked for \$20,000 a year for the next two years. The missions were at Muhlenburg, West Africa, and Guntoor, India. The committee on the *Liturgy* reported that the book was printed and ready for distribution. A committee was appointed to ascertain whether an agreement could be made with the General Synod South concerning a common hymn-book for the use of the two bodies. A measure designed to secure more complete statistical returns was passed, requiring each district synod to present to the General Synod for publication in the minutes a biennial parochial table of its operations, and ordering a summary of all such tables to be made by the Secretary of the General Synod. A fraternal delegate from the General Assembly of the Cumberland Presbyterian Church, presenting the greetings of that body, communicated an overture from it, proposing the mutual appointment of committees to consider the subject of a closer union between the two churches. The synod decided to appoint a standing committee to consider the subject and confer upon it with the Cumberland Presbyterian General Assembly. Reports were presented showing that the General Synod was in correspondence with nearly every evangelical religious body in the United States, and that fraternal delegates of those bodies had reported to it either in person or by letter.

The second biennial convention of the *Woman's Home and Foreign Missionary Society* connected with the General Synod was held at Altoona, Pennsylvania, April 7th. The society had received \$7,069 in two years. It helped support traveling missionaries in the West, sustained a home mission at Freeport, Illinois, maintained six girls' schools, a female mission-

ary and a *zenana* worker in India, and was building a house for its agents in that country.

The *General Council* met at Rochester, New York, in October. The Rev. Dr. A. Spaeth, of Philadelphia, was chosen president. Reports were presented on home missions, the Emigrant Mission in the port of New York, and foreign missions. The *Executive Committee of Home Missions* reported that it was indebted to the amount of \$2,337. One missionary and an asylum for emigrants were connected with the Emigrant Mission in New York. The missionary was accustomed to hold daily service in the chapel of the house, and cared for the emigrants from the time they landed till they were comfortably provided for. Nine thousand two hundred and twenty-seven persons had thus been taken care of during the year. The receipts for the Home or asylum had been \$12,710; it was still in debt to the amount of \$15,000. The receipts for the *Foreign Mission* had been \$7,670, and the expenses \$6,915. The mission, which was assumed by the General Council in 1869, is in and about Rajahmundry, along the Godavery River in India. Four missionaries had been sent out, and two natives who had been ordained three years previously had been educated so as to be able to act as missionaries. Five hundred and thirty-six persons had been baptized, and the mission included at present 216 communicants, 12 vernacular schools, 1 English, and 1 Teloo-goo Sunday-school.

The subject of appointing a special day of fasting and prayer, which had been considered by the Council for several years, was brought up again, and was disposed of by naming Ash-Wednesday as the day. The condition of the *Home Missions* was actively discussed. A proposition was made to reconsider the action of the previous year assigning the care of the several missions of this class to different synods, and to commit the whole work to the executive committee. An appeal was made by the friends of the synodal system to give it a longer trial, and it was unanimously continued for the ensuing year. A German committee was appointed for the German mission-work, and was instructed to consider whether it would be better to apply to a foreign institution for men qualified to labor as missionaries, or to organize an institution at home for the education of such men. The appointment of a special Swedish committee to look after the Swedish home missions having been recommended, the Central Committee of the Swedish Augustana Synod was constituted the Committee of the General Council. The Committee on the Emigrant Mission was instructed to confer with the same committee with regard to the appointment of a Swedish missionary for that station. The Council continued the discussion which it has carried on for several years of the one hundred theses on fellowship which had been prepared at its request by the Rev. C. P. Krauth. These theses were intended to elucidate the so-called

"Galesburg Rule"—"Lutheran pulpits for Lutheran ministers only; Lutheran altars for Lutheran communicants only." The ninety-seventh to the ninety-ninth theses, involving the doctrinal discussion of the relation of the visible to the invisible church, were taken up. They are as follows:

The tokens of an invisible church are invisible tokens, and can therefore only justify an invisible recognition. The communion of an invisible church must, as such, be an invisible communion. "The communion of saints" pertains to the invisible church, and is therefore not a visible communion. It is taught in the creed; it is an article of faith, and can not therefore be an object of vision. It is neither made nor necessarily marked by going into one pulpit or coming to one altar. Men may have both in common without being in the "communion of saints," and be in that communion without a common pulpit or altar.

The church visible may be considered in the wider and in the stricter sense of the term. The wider sense considers it with reference to the essentials of its simple existence; the stricter sense with reference to its rightful existence in conformity throughout with the divine idea and command. Wherever men may be born to God and divinely nurtured, either through the whole faith they confess, or in spite of parts of it, there is the church visible in its widest sense. The visible church, taking the term in its strictest sense, has its visible tokens, to wit, the official acceptance and confession of the word in its totality, in its pure and free sense, and the use of the right sacraments in their divine essentials. Wherever men are born to God and divinely nurtured, through the whole faith and sacraments confessed and used, and in no respect in spite of parts of that faith and usage, there is the church visible in the stricter sense, the pure church visible; or with the understanding implied, that the limitation is to the normal and unreservedly right there is the church visible. All Christian bodies, not self-confessed sects or sectisms, claim of necessity to be the visible church in the stricter sense. Not to claim it is a confession of heresy or schism. We are Lutherans because we believe that our church justly claims that her faith is in every part scriptural. She of necessity holds that all claims inconsistent with this are untenable. Our church exists of right, and we are in her fellowship of right, only because she is unreservedly the visible church by an unreserved confession of the whole truth.

The difference which underlies the distinction between the terms visible and invisible was brought out, in the discussion, to be:

The visible church is where the Word of God is taught, and the sacraments are administered in accordance with it; the invisible church is the communion of all true believers in Christ. Ordinarily, the latter is contained in the former, and becomes possible by it. Where word and sacraments are wanting, no Christian church is possible; wherever that word is found, and be there ever so little of its essentials, there is the church visible. Where that word is taught in its purity, there is the true visible church. There is no invisible church possible without the visible church, because God has revealed only this one way of salvation—to wit, his Word. Wherever, therefore, that word is preached, there alone believers are possible, and the invisible church.

The doctrine of the relation of the congregation to the synod was designated as the subject of the doctrinal discussion for the next year.

The *Synodical Conference* has suffered a

division on a question of a definition of doctrine. The joint Synod of Missouri, the largest and most influential synodical member of the body, at its meeting in 1881, approved a series of thirteen theses respecting the doctrine of predestination, which had been prepared by Professor C. F. Walther, of the Theological Faculty at St. Louis, but which were regarded by many persons in the other synods of the Conference as setting forth Calvinistic, and therefore un-Lutheran doctrines. The theses declare a belief and confession that God loved the world from the beginning, that he made all men to be saved and none to be damned, and that he wills the salvation of all; that the Son of God came into the world for the sins of all men; that he has borne the sins of all men and atoned for all, without exception, and has wrought complete redemption; that only true believers, who truly believe to the end of life, are the subjects of the election of grace or predestination; that the divine decree of election is unchangeable, and that, therefore, none of the elect can be rejected or lost, but that all the elect are truly saved; that it is foolish and perilous to the soul, leading it either to carnal security or to despair, when one endeavors to become sure of his election or final and eternal salvation, by penetrating the eternal and secret decrees of God; that a believing Christian should seek to become assured of his election from the clearly revealed will of God; that election does not consist in the mere foreknowledge of God that certain persons will be saved; that it is not his mere determination to redeem and save mankind, whereby it becomes general and extends to all men; that it does not embrace those who believe only for a time (Luke viii, 13); and that it is not simply a decree of God to save all those who shall believe to the end; that the grace of God and the merit of Jesus Christ alone are the cause which moved God to choose the elect, and not any good, not even the faith which he foresaw in them; that election is not a mere foreseeing and foreknowing of the salvation of the elect, but is also a cause of their salvation, and of all that belongs to it. The substance of the doctrines thus expressed had been much discussed after the theses were published by Professor Walther, in the press, in a pastoral conference held at Chicago, Illinois, and in a colloquium at Milwaukee, Wisconsin, which was attended by the faculties of the theological seminaries and the presidents of the synods embraced in the Synodical Conference. Having approved the doctrines, the Joint Synod of Missouri instructed its delegates not to sit with such men "as have publicly decried us as Calvinists"; and not to recognize any synod as being a member of the Synodical Conference "that as such has made that charge against us."

The subject was the especial object of consideration at the meeting of the Joint Synod of Ohio, which was held at Wheeling, West Virginia, September 8th. This body adopted,

by a majority of more than two thirds, a declaration of its doctrinal position on the subject as follows:

We again herewith confess the doctrine of election as it is contained in the formula of Concord, and also as it has, in accordance therewith, been always taught on the whole, by the great teachers of our church. Especially do we hold the doctrine of our fathers, that the ordination of the elect to eternal life took place in view of faith, i. e., in view of the merits of Christ appropriated by faith, to be in accord with the Scriptures and our Confessions; therefore, *Resolved*, that in the future, as in the past, the doctrines here anew confessed be alone authorized in our institutions, schools, publications, and churches.

The synod resolved to withdraw from the Synodical Conference, and replied to the protests of members against its action—or rather to those protests which were based upon fundamental points rather than merely directed

against the expediency of its course—with a declaration that “those members of the synod who not only protest against the action and position of the synod, but feel themselves bound in conscience to oppose the doctrinal position of the synod, can not remain among us as brethren.”

A free conference, representing the various Norwegian Lutheran Synods, was held at St. Ansgar, Iowa, in July, to consider measures for bringing those bodies together into one united Norwegian Lutheran Conference or Council. Four synods were represented by three hundred and forty-one delegates. The doctrines of redemption and forgiveness of sins were discussed, and the points of difference existing in the bodies were ascertained; after which the Conference adjourned, without taking definite action, till 1883.

M

MACKENZIE, ROBERT SHELTON, M. D., LL. D., D. C. L., born at Drews Court, County Limerick, Ireland, June 22, 1809; died in Philadelphia, November 30, 1880. He was the second son of Captain Kenneth Mackenzie, the author of a volume of Gaelic poetry. After his education at Fermoy, he studied medicine at Cork, and graduated at Dublin, but never practiced his profession. From his eighteenth year he was devoted to literature, and edited various newspapers in England until 1845, when he became London secretary of a railroad company, which position he retained until 1851. Meantime, while contributing to leading English periodicals, he had established a literary connection in America, writing for several journals, and furnishing a weekly letter to the New York “Evening Star” from 1834 until that paper ceased publication. Mr. Mackenzie was the first salaried correspondent of the American press. Between 1828 and 1850 he published several works, including “Lays of Palestine,” in 1828; “Titian, a Venetian Art Novel,” in 1843; a “Life of Guizot” (prefixed to a translation of “Democracy and its Mission”), in 1846; “Partnership en Commandite,” a legal commercial book, in 1847; and “Mornings at Matlock,” a collection of stories, in 1850. He was also engaged with others in the preparation of various works, and accomplished a large amount of editorial writing. In 1834 he received the degree of LL. D. from Glasgow University, and ten years later was made a D. C. L. by Oxford. Dr. Mackenzie came to America in 1852, settling first in New York, and removing to Philadelphia in 1857. Here his literary life was busy and productive, and he enjoyed the friendship of many prominent politicians and men of letters. For a long time he was associated with the Philadelphia “Press,” giving his attention mainly to foreign literary matters. Of his more per-

manent work, his admirable edition of the “Noctes Ambrosianæ” is perhaps the most notable. He edited, with copious notes and original biographies of the authors, Sheil’s “Sketches of the Irish Bar,” De Quincey’s “Klesterheim,” a “Life of Curran,” Lady Morgan’s “O’Briens and O’Flaherties,” and Dr. Maginn’s miscellaneous works. He also published several original works, and was remarkable for his memory of dates, events, and persons. His notes as a book editor were marked by great accuracy, and were esteemed very valuable.

MAINE. The presidential vote in 1880 was as follows: for the Garfield electors, 74,039; Hancock electors, 65,171; Weaver electors, 4,408; Dow, 93. The Hancock vote was cast for a fusion ticket containing four Greenbackers and three Democrats. There was no general election in 1881. On the 12th of September a special election was held in the second congressional district to fill the vacancy caused by the resignation of Mr. Frye. Nelson Dingley, Jr., Republican candidate, was elected by a vote of 10,960 against 5,519 for Gilbert, Greenbacker, and 295 for all others. The Legislature met on the 5th of January, and adjourned on the 18th of March. This body is constituted as follows: Senate, 22 Republicans, 5 Greenbackers, 3 Democrats, and 1 Independent; House, 86 Republicans, 33 Greenbackers, and 32 Democrats. On the 6th of January the following State officers were elected in joint convention: Joseph O. Smith, Secretary of State; Henry B. Cleaves, Attorney-General; George L. Beal, Adjutant-General; and Roscoe L. Bowers, Frederick Robie, Joseph T. Hinkley, William Wilson, James G. Pendleton, Lewis Barker, and Samuel N. Cambell, Councilors. These are all Republicans, and all were re-elections, except in the case of the Secretary of State. On the 2d of February S. A. Hol-

brook was elected State Treasurer. The election of United States Senator took place on the 18th of January. Eugene Hale, Republican, was chosen by a vote of 22 in the Senate against 8 for Joseph L. Smith, and 1 for Harris M. Plaisted, and of 83 in the House against 64 cast for Smith. On the 15th of March Congressman William P. Fryc was elected United States Senator to fill the vacancy caused by the resignation of Mr. Blaine, appointed Secretary of State in President Garfield's Cabinet.

Acts were passed at this session, making women eligible to the offices of supervisor of schools and superintending school committees, and regulating the practice in equity proceedings.

Other important enactments were—an act concerning the care of abused and neglected children; an act authorizing the improvement of marshes, meadows, and swamps; an act concerning public parks and squares; and an act for the promotion of medical science. An act relative to the manufacture and sale of vinegar is as follows:

SECTION 1. Whoever manufactures for sale, or knowingly offers or exposes for sale, or knowingly causes to be branded or marked as cider-vinegar, any vinegar not the legitimate product of pure apple-juice, known as apple-cider, and not made exclusively of said apple-cider, but into which any foreign substances, ingredients, drugs, or acids have been introduced, as shall appear by proper tests, shall, for each such offense, be punished by a fine of not less than fifty nor more than one hundred dollars.

SEC. 2. Whoever manufactures for sale, or knowingly offers or exposes for sale, any vinegar found, upon proper tests, to contain any preparation of lead, copper, sulphuric acid, or other ingredient injurious to health, shall, for each such offense, be punished by a fine of not less than one hundred dollars.

SEC. 3. The mayor and aldermen of cities shall, and the selectmen of towns may, annually appoint one or more persons to be inspectors of vinegar, for their respective places, who shall, before entering upon their duties, be sworn to the faithful discharge of the same.

An act relating to admissions to the bar provides:

SECTION 1. No person who has not been a member of the bar of another State, in good standing and in active practice, for at least three years, shall be admitted to practice law in the courts of this State, unless he shall have studied for at least two years in the office of some attorney-at-law, or part of the time in such office, and the remainder in some law-school, and shall also have passed a satisfactory examination in his legal studies.

SEC. 2. All examinations shall be public, and in the presence of some justice of the Supreme judicial court during term-time. The time for holding the same in each county, not exceeding twice in each year, shall be fixed by the Chief-Justice. The examination shall be partly oral and partly written, and shall be conducted by an examining committee of the bar, in each county, to be appointed by the Chief-Justice.

The principal provisions of an act for the better protection of life in buildings used for public purposes are as follows:

SECTION 1. Any church, theatre, hall, or other building or structure intended to be used temporarily or permanently for any public purpose, or any school-house or school-room, public or private, hereafter con-

structed, shall have all inner doors intended to be used for egress therefrom open outward.

SEC. 2. All outer doors of buildings or structures of the kind mentioned in section 1 of this act, constructed or hereafter to be constructed, shall be kept open when such buildings or structures are used by the public, unless such doors open outward, and except that fly-doors opening both ways may be kept closed.

SEC. 3. All hotels used for the accommodation of the public, and all shops, mills, factories, and other buildings, more than two stories in height, in which any trade, manufacture, or business is carried on, which requires the presence of workmen or other persons in any part of the building above the first story, shall be provided with such suitable and sufficient fire-escapes, outside stairs or ladders, as the municipal officers shall deem to be sufficient to afford safe and easy escape from the building in case of fire; and such fire-escapes or ladders shall be attached to the building or be stored outside of such building, and convenient thereto, as the municipal officers shall direct, and shall be of such length and number as said officers shall approve.

An act relating to the transportation of passengers and freight by railroad contains the following provisions:

SECTION 1. . . . No railroad doing business within this State shall demand or receive of any other railroad doing business within the same, whether making direct connection or not, or from passengers over the same, or from freight forwarded over the same, higher rates of fare or freight than it demands or receives of any other railroad within the State.

SEC. 2. No rebate, drawback, allowance, or other advantage shall be made or extended by any railroad in favor of another railroad doing business over the same, by which the operation of the foregoing section shall be changed or affected, or by which one railroad doing business over the same shall receive any greater advantage than any other railroad, doing business over the same, shall receive.

SEC. 3. Any railroad company chartered under the laws of this State, which shall refuse to receive, transport, or deliver any freight, merchandise, or passengers, according to the provisions of this act, and under the terms thereof, or which shall demand or receive from any other railroad in this State, for the transportation of its passengers or freight, any sum in excess or violation of said provisions, shall, for each offense, forfeit and pay any corporation injured, the sum of one hundred dollars, to be recovered by an action on the case in any county in which any of the parties in such action has a residence or place of business.

An act was also passed for the taxation of railroads, the essential portions of which are as follows:

SECTION 1. The buildings of every railroad corporation or association, whether within or without the located right of way, and its lands and fixtures outside of its located right of way, shall be subject to taxation by the several cities and towns in which such buildings, land, and fixtures may be situated, as other property is taxed therein.

SEC. 2. Every corporation, person, or association operating any railroad in this State, shall pay to the State Treasurer, for the use of the State, an annual excise tax, for the privilege of exercising its franchises in this State, which, with the tax provided for in section 1, shall be in lieu of all taxes upon such railroad, its property and stock. There shall be apportioned and paid by the State from the taxes received under the provisions of this act, to the several cities and towns in which, on the first day of April in each year, is held railroad stock hereby exempted from other taxation, such amount equal to one per

centum on the value of such stock on that day, as determined by the Governor and Council: *Provided, however,* That the total amount thus apportioned on account of any railroad shall not exceed the sum received by the State as tax on account of such railroad.

Sec. 3. The amount of such tax shall be ascertained as follows: The amount of the gross transportation receipts as returned to the Railroad Commissioners for the year ending on the thirtieth day of September next preceding the levying of such tax, shall be divided by the number of miles of railroad operated to ascertain the average gross receipts per mile; when such average receipts per mile shall not exceed twenty-two hundred and fifty dollars, the tax shall be equal to one quarter of one per centum of the gross transportation receipts; when the average receipts per mile exceed twenty-two hundred and fifty dollars and do not exceed three thousand dollars, the tax shall be equal to one half of one per centum of the gross receipts; and so on, increasing the rate of the tax one quarter of one per centum for each additional seven hundred and fifty dollars of average gross receipts per mile or fractional part thereof, provided the rate shall in no event exceed three and one quarter per centum. When a railroad lies partly within and partly without this State, or is operated as a part of a line or system extending beyond this State, the tax shall be equal to the same proportion of the gross receipts in this State, as herein provided, and its amount determined as follows: the gross transportation receipts of such railroad, line, or system, as the case may be, over its whole extent, within and without the State, shall be divided by the total number of miles operated to obtain the average gross receipts per mile, and the gross receipts in this State shall be taken to be the average gross receipts per mile, multiplied by the number of miles operated within this State.

The following resolve, amendatory of a former resolve, relating to the Penobscot Indians, was adopted:

Resolved, That the Penobscot tribe of Indians hereafter be allowed to elect by ballot their governor, lieutenant-governor, and representatives to the Legislature, on the second Tuesday of September, biennially, and that the old and new party, so called, be allowed to select from their respective parties candidates for said offices, alternately, commencing with the old party, for the year eighteen hundred and sixty-seven, and the new party shall have no voice in the selection of candidates for said offices, and shall not vote in their election, in those years when the old party is entitled to them; and the old party shall have no voice in the selection of candidates for said offices, and no vote in their election, in those years when the new party is entitled to them; and it shall be the duty of the agent to preside at such election.

The relations of the Governor with the Council during the year were not harmonious. The differences related partly to appointments to office, but the chief disagreement was on the question whether the power of removal is vested in the Governor alone, or rests with the Governor by and with the consent of the Council. The Governor sought to remove the reporter of decisions in March. His power was questioned, and the opinion of the justices of the Supreme Court was asked. In December their unanimous opinion was given against the claim of the Governor. The following exhibits the financial condition of the State:

RECEIPTS.

Total receipts for the year 1881.....	\$1,417,526 83
Cash in the Treasury, January 1, 1881.	160,388 64
Total.....	\$1,577,865 47

EXPENDITURES.

Total expenditures for the year 1881..	\$1,435,460 21
Cash in the Treasury, December 31, 1881	142,405 26
Total.....	\$1,577,865 47

There was paid on the public debt, \$83,000; for interest on the same, \$336,681. The payroll of the House was \$28,159. For printing there was paid \$12,609.39; binding and stitching, \$5,490.80; insane State beneficiaries, \$38,109.49; to deaf, dumb, and blind, \$13,468.01; to the Reform School was given \$13,000; and to the State Prison, \$43,289.62. Soldiers' pensions amounted to \$17,843.50; expenses for military purposes to \$15,852.14. To free high-schools was paid \$16,256.05; to school fund, No. 47, \$84,213.18; to the school mill-tax, No. 9, \$210,591.80; to normal schools, \$18,353.62. The amount paid the temporary loan was \$200,000.

Following is an exhibit of the condition of the sinking fund:

CREDIT.

By balance of fund, January 1, 1881, as per last report.....	\$1,807,857 75
Receipts during the year from taxation.....	80,479 95
Receipts, State of Maine 4 per cent bonds, due August 1, 1881.....	25,000 00
Receipts, for interest.....	66,544 40
Total.....	\$1,479,882 10

DEBIT.

To investment of bonds due.....	\$25,000 00
Paid premium on bonds purchased.....	17,135 63
Paid for accrued interest.....	1,343 93
Paid for commissions.....	35 25
Balance, December 31, 1881, invested as per schedule annexed.....	1,436,367 29
Total.....	\$1,479,882 10

U. S. registered and coupon 4 per cent bonds..	\$206,000 00
“ “ 3½ per cent bonds	30,500 00
“ “ 4½ “ “	55,000 00
N. H. registered and coupon 6 per cent bonds.	65,700 00
“ “ 5 per cent bonds	22,000 00
State of Maine registered 4 per cent bonds.....	132,000 00
“ “ “ 6 “ “	869,000 00
“ “ coupon 6 “ “	4,300 00
Certificates of Governor and Council for lost bonds.....	600 00
Cash and checks on Suffolk National Bank.....	51,267 29
Total.....	\$1,436,367 29

Some of the estimated expenditures for 1882 are—for public debt, \$53,000; for interest thereon, \$345,000; for the school fund and mill-tax, \$327,978.71; for normal schools, \$19,000; for free high-schools, \$26,000; for salaries of public officers, \$53,000; for insane State beneficiaries, \$40,000; for the deaf, dumb, and blind, \$13,500; for soldiers' pensions, \$22,000; for military purposes, \$16,000. The total estimated expenditures are \$1,247,835.90; the total estimated receipts, \$1,467,185.05.

The resources of the State, January 1, 1882, were, cash in the Treasury, \$142,405.26; due on State taxes, \$1,005,029.79; sinking fund, \$1,436,367.29; total, \$2,583,802.34. The liabilities of the State, January 1, 1882, were \$8,588,600.25. The bonded debt of the State, after deducting the sinking fund, is \$4,365,533.

The land agent paid into the Treasury during the year the sum of \$5,314.21, viz.: Septem-

ber 21st, \$3,000, and November 11th, \$1,470.74, on account of the permanent school fund, and on November 30th, \$843.47, on account of lands reserved for public uses.

The disbursements of the State College amounted to \$16,815.14; total receipts, \$18,401.42; the resources of the college amount to \$131,161.38. The total number of graduates is 156, besides whom nearly 200 students have been connected with the institution for a greater or less length of time.

There are now 181 prisoners in the State Prison. The total number of convicts convicted since the erection of the prison, in 1826, is 2,550. Of the present inmates about 40 are under sentence for life for murder and arson. Of the convicts, 23 work in the wood-shop, 15 in the paint-shop, 34 in the blacksmith-shop, 10 in the shoemaker's shop, 45 in the harness-shop, 8 at trimming, 3 at tailoring, and 43 at other employments.

In the Insane Hospital, on the 1st of December, 1880, there were 436 patients—226 men and 210 women. There were subsequently admitted 215 persons—129 men and 86 women, making a total number under treatment of 651—355 men and 296 women. Of these there were discharged 201—115 men and 86 women—leaving in the Hospital on the 1st of December, 1881, 450 patients—249 men and 210 women. The record of deaths varies but little from previous years, being but about ten per cent of the daily average resident. Many of these were old residents at the Hospital, advanced in years and worn with disease. The average age of those who died was 51.7 years—the youngest eighteen and the oldest eighty-seven. The whole number of patients admitted and discharged since the Hospital was first opened, in 1840, is as follows: 5,759 admitted, and 5,309 discharged. Of the latter, 2,201 recovered, 1,054 improved, 943 did not improve, and 1,107 died. It is expected that the new pavilion for females will be completed and ready for occupancy during the coming year. This will accommodate 45 patients. The cash receipts have amounted to \$108,026.15; the disbursements to \$100,869.65, leaving a balance of cash on hand of \$7,156.50. The resources, including this balance, and the value of various supplies on hand, are \$40,888.25; the liabilities, comprising dues for various supplies, and due to employes, are \$16,058.81.

The aggregate liabilities and resources of the savings-banks of Maine, at the close of the year, were as follows:

LIABILITIES.

Deposits.....	\$26,474,554 97
Reserved fund.....	871,015 33
Special reserved fund.....	162,204 04
Profits.....	671,082 17
Other liabilities.....	132,545 35
Total.....	\$28,361,401 86

RESOURCES.

Cash.....	\$1,237,221 86
United States bonds.....	5,802,259 08
State of Maine bonds.....	55,875 00
Other public funds.....	7,709,353 77

Brought forward.....	\$14,804,709 71
Railroad bonds.....	2,541,579 83
Bank stock.....	1,199,463 83
Real estate.....	1,200,488 19
Other investments.....	864,047 89
Loans on mortgages of real estate....	4,984,511 18
Other loans.....	2,766,652 23
Total.....	\$28,361,401 86

Other important facts are given below:

Present number of savings-banks.....	55
Number of depositors.....	87,977
“ “ not over \$500 each.....	60,797
“ “ over \$500 each.....	27,180
Net increase of deposits the past year.....	\$2,860,898 37
“ “ reserved fund.....	263,385 70
Amount of dividends paid depositors the past year.....	1,006,493 35
Amount of State tax paid the past year.....	174,226 04
Increase of investments in United States bonds the past year.....	1,606,347 99
Decrease of investments in State of Maine bonds the past year.....	12,250 00
Increase of investments in other public funds the past year.....	563,577 97
Increase of investments in railroad bonds the past year.....	174,491 11
Increase of investments in bank-stock the past year.....	424,567 50
Decrease of loans on mortgages of real estate..	254,952 10

The number of savings-banks is the same as in 1880. The number of depositors has increased 7,030. The deposits have increased \$2,860,898.37, showing a marked increase of general prosperity in the State. In the hard times of 1878 the deposits of the savings-banks decreased \$3,725,320. In 1879 they decreased \$186,363. In 1880 prosperity began to revive, and the deposits in the savings-banks at the end of the year had increased \$1,968,183. This year the increase has gone on.

The Fish Commissioners report that the run of salmon commenced unusually early in 1881, and was remarkable for the large size of the fish. As to numbers, the run was the smallest of the past three years, but the largest for the previous ten or twelve years. There has been a distribution of over half a million salmon in the Penobscot, Kennebec, Androscoggin, Saco, Presumpscot, and Machias Rivers.

For the year's result, the contribution to the Bucksport and Orland salmon-works was \$2,000; dividend of salmon-eggs, 1,080,000. The contributions to the Orland works were as follows: by Maine, \$2,000; dividend of eggs, 1,080,000; by Massachusetts, \$500; dividend of eggs, 270,000; by Connecticut, \$300; dividend of eggs, 162,000; by the United States, \$1,757; dividend of eggs, 950,000. Total—money, \$4,557; eggs, 2,462,000. The Penobscot is the only river on the Atlantic coast of the United States from which a supply of sea-salmon eggs can be obtained for propagation.

The commissioners reported that they had but 60,000 landlocked salmon-eggs from a \$300 contribution. There are two great hatcheries in the State owned by the United States and associated States, one at Orland and the other at Grand Lake Stream. The contributions to the Grand Lake Stream fund were as follows: Maine, \$300; dividend, 60,000 eggs. New Hampshire, \$250; dividend, 50,000 eggs. Massachusetts, \$500; dividend, 100,000 eggs. Con-

necticut, \$500; dividend, 100,000 eggs. United States, \$1,450; dividend, 290,000 eggs. Total money, \$3,000; total eggs, 600,000.

During the year 2,000,000 shad were given by Professor Baird, the United States Commissioner of Fisheries. These fish were divided between the Penobscot and Kennebec Rivers, 1,000,000 having been turned into the Sebasticook at Waterville, and 1,000,000 into the Mattawankeag, near its junction with the Penobscot.

The following ponds have been stocked with black bass this year: Trip Pond, in Minot; Gardiner Pond, in Wiscasset; Gun Point Ice Company's Pond, at Harpswell; Hosmer Pond, in Rockport; Kezar Ponds and Heald and Cushman Ponds, in Lovell; and Little Pushaw Pond, in Corinth.

During the year four citizens of the State upon trial were convicted of murder in the first degree. Two verdicts of manslaughter were rendered, and two additional indictments for murder were found and sentence imposed in one upon a plea of guilty, the court adjudging the grade to be murder in the first degree. Two citizens were sentenced to imprisonment for life for the crime of arson. The Attorney-General in his report remarks as follows: "The convictions for murder in the first degree during the present year alone exceed the number during the three years previous to the abolition of the death-penalty, and are nearly equal to the number occurring during the three years following. The frequency of these horrible crimes and the fiendish brutality exhibited in the commission of a large portion of them has naturally created a sentiment in the community for the application of the death-penalty in cases of such atrocious character. There are arguments for and against its application—arguments that are satisfactory to the minds and consciences of the adherents and opponents. Any amount of discussion of the question, I apprehend, would have but slight effect upon the convictions already formed by the mass of our citizens. The laws are for the protection of the public, of society, and are not presumed to be in sympathy with the hardened criminal, and if the law-abiding and peaceable citizens of this State, who desire to live with some sense of security, can be better protected from the assassin's knife or the ruffian's bullet by the restoration of the death-penalty, it is a matter that should receive the most careful and serious consideration of the Legislature."

During the year ending November 1st, the whole number of prosecutions and offenses in the State was 1,200. Of these more than half were for violation of the liquor law. Franklin County has the cleanest record, there being but 7 criminal cases in the entire year. Kennebec had 210 and Cumberland 298. In Kennebec County there were 135 cases for violation of the liquor law, a greater number than in any county except Cumberland, which had 174. Of the prosecutions and offenses 10 were

for homicide, 3 for arson, 3 for perjury, 11 for forgery and counterfeiting, 30 for compound larceny, 70 for larceny, 5 for burglary, 2 for robbery, 2 for rape, 16 for assault with felonious intent, 103 for assault and battery, 4 for affrays and riots, 11 for offenses against chastity and morality, 13 for malicious mischief, 9 for cheating and conspiracies, 6 for defects in highway, 119 for nuisance, 646 for violation of the liquor law, 118 for other offenses.

The Reform School is in a prosperous condition. Since the institution was founded by the State, twenty-eight years ago, 1,678 boys have been received and cared for, and there were in the school, December 1st, 113 boys. Thirty-four boys were committed during the year. Twenty-six acres of land have been under cultivation. The farm is in a high state of improvement, and the value of the crops harvested, milk and meat sold, was \$7,501.83. A large portion of the boys are employed in the chair-shops. The receipts from December 1, 1880, to December 1, 1881, were:

Balance on hand December 1, 1880.....	\$481 76
From State Treasurer	13,000 00
Farm and stock.....	2,086 55
Chair-work.....	3,139 37
Cities and towns.....	2,696 71
All other sources.....	274 84
Due Treasurer of Reform School.....	2,000 00
Total.....	\$23,629 23

The expenditures during the same period have been \$23,247.45, leaving a balance on hand of \$451.78. The schools are under the charge of competent teachers. The present number of boys under instruction is 113.

The following table gives the number of male citizens of the State between eighteen and forty-five years of age:

COUNTIES.	Number in 1880.	COUNTIES.	Number in 1880.
Androscoggin	5,732	Penobscot.....	11,147
Aroostook.....	5,885	Piscataquis.....	2,247
Cumberland.....	13,092	Sagadahoc.....	3,064
Franklin.....	2,753	Somerset.....	4,882
Hancock.....	6,412	Waldo.....	4,979
Kennebec.....	7,830	Washington.....	6,691
Knox.....	4,971	York.....	9,569
Lincoln.....	3,688		
Oxford.....	5,068	Total.....	97,510

The following are the valuation and population of the cities of Maine, as reported by the Valuation Commission:

CITIES.	Population in 1880.	Valuation in 1880.	Valuation in 1870.
Auburn.....	9,556	\$5,099,446	\$2,918,101
Augusta.....	8,666	5,168,964	4,831,135
Bangor.....	16,857	8,738,605	10,036,561
Bath.....	7,875	5,913,192	6,402,713
Belfast.....	5,308	2,463,677	2,660,879
Biddeford.....	12,652	5,577,867	5,632,402
Calais.....	6,172	1,732,056	1,523,452
Ellsworth.....	5,051	1,456,366	1,233,199
Gardiner.....	4,439	2,879,129	2,179,243
Hallowell.....	3,154	1,611,320	1,222,295
Lewiston.....	19,083	9,521,103	8,313,629
Portland.....	33,810	30,437,541	29,459,257
Rockland.....	7,599	2,951,019	3,419,355
Saco.....	6,396	3,408,533	3,116,374
Total.....	146,618	\$86,753,818	\$83,543,595

Under the new railroad-tax act, the assessments on the several companies operating the railroads of Maine were as follows:

Bangor and Piscataquis.....	\$207 00
Boston and Maine.....	17,245 35
Bucksport and Bangor.....	46 75
Knox and Lincoln.....	615 56
Portland Horse.....	932 20
Portland and Ogdensburg.....	660 42
Portland and Rochester.....	1,159 37
Rumford Falls and Buckfield.....	67 54
Somerset.....	51 93
St. Croix and Penobscot.....	51 82
European and North American.....	3,040 33
Sandy River Valley.....	23 13
Eastern.....	16,786 29
Maine Central.....	20,772 25
Grand Trunk.....	9,569 66
Aroostook River.....	20 12
Houlton Branch.....	17 30
Orchard Beach.....	11 19
Total.....	\$71,278 26

The Governor and Council assessed the following tax upon the telegraph companies in the State, as required by law:

Maine Telegraph Company.....	\$1,250
Western Union.....	2,500
International.....	1,250
American Union.....	125
Atlantic and Pacific.....	125
Montreal Telegraph Company.....	500
Total.....	\$5,750

The following table exhibits the amounts assessed on express companies:

NAME OF PARTY ASSESSED.	Amount of business done.	Tax.
American Express Company.....	\$150,000 00	\$1,125 00
Canadian Express Company.....	25,000 00	187 50
Hoyt & Company.....	2,000 00	15 00
Merchants' Express Company.....	11,541 00	86 55
Charles O. Milliken.....	4,000 00	30 00
Prince's Express.....	7,589 61	56 91
Sandy River Express Company.....	500 00	3 75
Saco, Biddeford and Boston.....	3,000 00	22 50
United States Mail and District Express Company.....	2,000 00	15 00
Swett's Express Company.....	5,000 00	37 50

According to the census of 1880, Maine had employed in cotton manufactures 696,685 spindles, and 11,319 hands.

In 1870 there were about 250,000 tons of ice harvested on the Kennebec River, at a cost of about a dollar a ton. The amount has grown annually, until it reached its maximum in 1880, when 1,000,000 tons were stored on the Kennebec and its vicinity. Last winter, owing to the intense cold weather which prevailed all over the country, and which made a good ice-crop on the Hudson, and in the ponds in Massachusetts and New York, but about 600,000 tons were stored on the river, at a cost for harvesting of from fifteen to twenty-five cents a ton.

The cut of lumber on the Penobscot waters during the season reached 150,000,000 feet or more. There is an overstock of 60,000,000 old logs, and the cut of 1882 is estimated at over 100,000,000 feet. In 1879 the hay-crop of Maine was valued at \$11,500,000, and all other crops of the State at \$7,250,000.

A State Temperance Convention was held early in the year, at which the following resolutions were adopted:

1. The great advance of the temperance movement in Maine is largely due to a recognition by temperance people of total abstinence as the indispensable basis of all permanent work.

2. Thirty years' trial of prohibition, interrupted by a two years' trial of license, has demonstrated to the satisfaction of a large majority of our people that prohibition is the most effective legal policy ever devised to restrain the dram-shop evil and increase the efficiency and permanency of those moral agencies on which temperance progress mainly depends.

3. To remove the question of prohibition from the field of partisan politics and give it the strength which attaches to all principles settled by a solemn vote of the people, incorporated into the fundamental law, we respectfully but earnestly request the Legislature to submit to the people a prohibitory constitutional amendment, as prayed for by a large number of petitioners.

To the Honorable, the Legislature of Maine:

The Maine State Temperance Convention, now in session at Augusta, most respectfully represents to the Honorable, the Legislature, that it is desirable, as far as possible, to remove the liquor question from the arena of party politics. To the convention, it seems to be a particularly suitable mode of doing this, to submit the question of prohibition to a direct vote of the people, on a proposition to incorporate it into the Constitution. The convention, therefore, most earnestly prays that the following proposition may be submitted to the people at the earliest time at which it can be legally done, viz.:

The manufacture, for sale, of intoxicating liquors of whatever kind, is and shall be for ever prohibited, except the manufacture of cider, which is remitted to the discretion of the Legislature. And the sale of intoxicating liquors, of whatever kind, is and shall be for ever prohibited, except for medicinal and mechanical purposes and for the arts, which shall be provided for by law, through suitable agencies appointed for that purpose. The sale of cider may be permitted under such regulations as the Legislature may provide. And the Legislature shall from time to time enact such laws with whatever penalties may be deemed necessary for the entire suppression of the manufacture and sale of intoxicating liquors, with the exceptions and conditions herein specified.

A meeting of lawyers was held at Augusta on April 25th, and a State Bar Association was formed.

The population of the State by counties, in 1880, as compared with 1870, was as follows:

COUNTIES.	1880.	1870.
Androscoggin.....	45,042	35,866
Aroostook.....	41,700	29,609
Cumberland.....	56,359	82,021
Franklin.....	18,180	18,807
Hancock.....	38,129	36,495
Kennebec.....	53,058	53,203
Knox.....	32,863	30,823
Lincoln.....	24,821	25,597
Oxford.....	32,627	33,458
Penobscot.....	70,476	75,150
Piscataquis.....	14,872	14,403
Sagadahoc.....	19,272	18,803
Somerset.....	32,333	34,611
Waldo.....	32,463	34,522
Washington.....	44,454	43,343
York.....	62,257	60,174
The State.....	648,936	626,915

MANLY, MATTHIAS EVANS, born in Chatham County, N. C., April 13, 1800; died at New Berne, N. C., July 16, 1881. He was the son of Rev. Dr. Basil Manly, an eminent Baptist divine of Alabama. After graduating at a university he studied law with his brother, the

Hon. Charles Manly, of Raleigh, N. C., and then removed to Newbern, from which town he was elected a member of the House of Commons in 1834. He was the last representative of that ancient borough, the convention to amend the Constitution in 1835 having abolished its right of representation. In 1840 Mr. Manly was elected Judge of the Superior Court. This position he filled with honor for twenty years, when he was promoted to the Supreme Bench, where he served most acceptably until he retired about the close of the war. Soon after the termination of hostilities he was chosen, with Governor Graham, by the Legislature of North Carolina, to represent the State in the United States Senate; but they were not allowed to take their seats. Judge Manly continued to practice law in Newbern up to the time of his death, and enjoyed the highest esteem of that community and of the State at large, as a man of great legal ability and eminent personal virtues.

MARYLAND. The presidential vote in 1880 was as follows: for the Garfield electors, 78,515; Hancock electors, 23,706; Weaver, 818. In November, 1881, an election was held for Comptroller of State and members of the Legislature. For Comptroller, Keating, Democrat, had 13,600 majority over Gorsuch, Republican. The vote, so far as received, was 70,629 for Keating and 57,029 for Gorsuch. The Republicans carried more than half the counties in the State, and the Democratic majority was due to the large vote in the city of Baltimore. The Legislature consists of 16 Democrats and 10 Republicans in the Senate, and 59 Democrats and 32 Republicans in the House. The Democratic majority in the two Houses is smaller than it has been for fifteen years. Of the Democratic Senators 6, and of the Democratic Assemblymen 18, are said to be opposed to the present management of the party.

The following condition of the Treasury is shown by the tables of the Comptroller for the fiscal year ending September 30, 1881:

Total receipts during the fiscal year.....	\$1,996,641 08
Balance in the Treasury September 30, 1880....	513,026 36

	\$2,509,667 44
Disbursements for the fiscal year.....	1,757,469 15

Balance in the Treasury September 30, 1881....	\$752,198 29
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The receipts into the Treasury were from the following sources:

From direct tax.....	\$1,018,500 47
From internal improvement companies, dividends and interest.....	225,076 94
From the ordinary sources, to wit: Licenses, gross receipts, foreign insurance, etc	753,063 67

Total receipts.....	\$1,996,641 08
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The disbursements were as follows:

To interest on public debt.....	\$643,340 27
To public schools.....	510,413 08
To credit of sinking fund.....	19,467 50
To redemption of debt.....	24,000 00
To the ordinary expenditures, to wit: Salaries, colleges and academies, public institutions, etc.....	560,248 30

Total disbursements.....	\$1,757,469 15
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The direct tax is that which is levied and collected from the assessable property of the State, which is now 18½ cents on the \$100 of property, and which brought into the Treasury during the last fiscal year the following sums:

For Normal School and House of Correction loan, now paid.....	\$1,415 18
For public schools, tax 10 cts.....	543,771 78
For bounty or defense loan, tax 5½ c.....	299,187 95
For Deaf and Dumb Asylum loan, tax ¼ ct....	40,484 70
For Hospital loan, tax 1 ct.....	54,888 60
For Treasury Relief loan, tax 1½ ct.....	79,252 26

Total tax, 18½ cts.....	\$1,018,500 47
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The loans above referred to are the following:

Defense or bounty loan, due in 1853.....	\$3,326,750 66
Deaf and Dumb Asylum loan, due in 1855 and 1859.....	225,000 00
Maryland Hospital loan, due in 1887 and 1891.	465,000 00
Treasury Relief loan, due in 1893.....	500,000 00

Total amount of these loans.....	\$4,516,750 66
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This part of the public debt being provided for by these specific taxes, and there being no other direct tax except that for schools, which belongs exclusively to them, other sources for the payment of the remaining interest on the public debt have to be looked to.

The public debt at the end of the fiscal year ending September 30, 1881, was.....	\$11,257,560 69
Deduct amount provided by these taxes.....	4,516,750 66

Leaving the interest to be paid from other sources on this amount of debt.....	\$6,740,810 03
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Which is in loans, as follows:

Five per cent sterling loan, interest payable in London, in gold, and due in 1869.....	\$4,185,555 58
Five per cent currency, due in 1890.....	340,554 88
Three per cent currency, due in 1890.....	269,000 00
Six per cent currency, due in 1835.....	528,355 00
Six per cent currency, due in 1890.....	361,040 47
Six per cent currency, Maryland State loan, for redemption and exchange of State debt.....	1,056,804 10

Total.....	\$6,740,810 03
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The productive assets or credits of the State at the end of the last fiscal year are as follows:

Stock of Annapolis Water Company.....	\$30,000 00
Stock of Farmers' National Bank at Annapolis	46,470 00
Stock of Washington Branch B. & O. R. R....	550,000 00
Stock of B. & O. R. R., 6 per cent dividend...	963,615 70
Bonds B. & O. R. R.....	366,000 00
Mortgage on Northern Central Railroad.....	1,500,000 00

Total dividend and interest-bearing assets....	\$3,461,085 00
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The whole interest paid upon the public debt for the last fiscal year was.....	\$643,340 27
Deduct the interest upon the four loans already provided by the direct tax.....	271,065 02

Interest to be provided from other sources....	\$372,335 25
Deduct therefrom the proceeds from internal improvement companies, dividends and interest.....	225,076 94

Leaving balance of interest to be paid from the ordinary resources of the Treasury.....	\$147,258 31
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The ordinary resources are.....	\$753,063 67
The ordinary disbursements.....	560,248 30

Leaving ordinary receipts over ordinary expenditures, for fiscal year, 1881.....	\$192,815 37
Deduct payment made on redemption of debt of \$24,000 and amount carried to credit of sinking fund of \$19,467.50.....	43,467 50

Leaving net balance of.....	\$149,347 87
Balance of interest to be paid.....	147,258 31

Surplus.....	\$2,089 56
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This shows a small surplus. But it will be observed that the public schools received but \$510,413.08, while the amount really collected for them from the tax of ten cents was \$543,771.78, showing, also, that this difference of \$33,358.70 went into the ordinary or usual receipts, which, if paid to the public schools, would have left a deficit in the Treasury of the large sum of \$31,269.14, to be supplied from receipts absolutely appropriated to other specified purposes. This, too, occurred in a year when there was no legislative session. In a legislative year the deficiency would have amounted to upward of \$200,000. The Governor calls attention to the diversion of funds from the sinking fund, and other guaranteed objects, and to the extravagance which results therefrom. He thinks the people will not justify a new loan or additional taxation, but that further deficiencies must be prevented by retrenchment. He recommends more stringent measures against tax-collectors to enforce the payment of overdue taxes. There was due the State, from 1845 to 1880, inclusive, the sum of \$546,613.54, from collectors of taxes in the city and the several counties. There was due for the same time by the sheriffs the sum of \$27,833.44, and also by incorporated institutions the sum of \$102,796.31, making altogether an aggregate of \$677,243.29 thus due, a portion standing for a long time.

"The whole tax and collection system," says the Governor, in his message to the Legislature, "needs revision, and I would respectfully submit to your consideration the propriety of authorizing the Executive to appoint a non-paid commission of gentlemen, who would take an interest in the subject, for that purpose, and to report to the next Legislature."

He recommended the reduction of the number of tax-collectors from eighty-four to twenty-four, one for each county and the city of Baltimore, as tending to simplicity and efficiency. As tending to economy, he recommended the abolition of various unnecessary offices. On the subject of retrenchment the Governor remarks:

The extraordinary legislative expenses for a series of past sessions have been the subject of great public concern and of just complaint. There were 111 members in both bodies, and at the last session there were 105 officers and employés. The per diem, mileage, and stationery of the members was \$57,767, while that of the officers and employés was \$59,194.25. This exhibit can not be repeated without causing widespread dissatisfaction among the people. This large expenditure for officers and employés was made up by regular per diem, additional pay, and extra compensation.

There is no law prescribing the number of officers, or fixing compensation, with the sole exception of that of 1868, chapter 61, which provides only what officers of the preceding session shall return to the opening of the new session, and confines the number to five for both Houses. Besides this one provision, the whole subject is left without system or law. To avoid like excesses and abuses in the future, it is indispensable that a well-ordered system be established by law for the regulation and conduct of this branch of the service.

A well-considered bill was matured at the last session, limiting the number of such appointments for both Houses to thirty-nine, an ample number, in my judgment, and fixing their aggregate compensation at \$17,330, a retrenchment in this service alone of \$42,000. This bill failed to pass, but I take the liberty of commending it to your consideration. In any law to be passed upon the subject, great care should be taken that any compensation other than that fixed by the law itself, should be expressly forbidden to be paid by the Treasury.

In view of the general laws providing for so many interests in the State, and which before applied for legislation, the session, with diligent application to business, ought not to extend over sixty days, if even that long.

The public printing, that for the Legislature as well as for all the departments, requires your earnest consideration. There is now no system whatever regulating this important and expensive branch of the service. In no other branch has there been a more inconsiderate or wasteful expenditure of the public money.

The printing of the Legislature alone, including indexing, etc., for the last four sessions, amounted to \$187,636, averaging \$46,909 a session, and that for the departments, including advertisements, from \$5,000 to \$10,000 annually, depending upon the work done.

Here is an unquestioned opportunity for a sterling retrenchment.

The publication of the laws is another subject to which public attention has been attracted. The expenditure is so large, and at the same time so monopolized, that it could not escape inquiry and criticism with just men or with tax-payers. It is a system of comparatively modern invention. Prior to 1865 such systematic publication was unknown.

The act of 1865, chapter 31, first inaugurated the practice, and by act of 1868, chapter 67 and chapter 440, it was more definitely defined by directing the publication to be made at the expense of the State, and to be paid on the warrant of the Comptroller. This act provides that every public general law to take effect before the first day of June is to be published daily for one week in two daily newspapers in Baltimore city, one of which shall be in the German language, and one newspaper in each county having the largest circulation. No terms are prescribed nor price fixed, and the Treasury Department paid the sum of \$1,200 to each county newspaper—in some instances dividing it between two—and \$5,550 to city newspapers—dividing it among three—for the publication of the laws of the session of 1880. The aggregate amount paid for this session for the counties and the city was \$33,150; for the session of 1878, \$33,064.70; for the session of 1876, \$31,689; making an aggregate of \$97,903.70 for these three sessions.

In these three items of expenditure alone—the legislative expenses, the public printing, and the publication of the laws—there can be a judicious saving of at least \$70,000.

The origin of the system in 1865 was to support from the Treasury a partisan press not then supported by the people, and, though the cause has ceased, the practice still continues. It should stop; and therefore I recommend the repeal of those acts of 1865 and 1868; and thus, while relieving the Treasury from a heavy charge, at the same time relieve the press from patronizing influences. If it should be considered necessary, from time to time, to make publication of important laws in newspapers, provision could be made for it.

At the last session there was a well-matured bill prepared, authorizing the Governor and Attorney-General to have such publication made of any laws that might be deemed to be of sufficient public interest, but it failed to pass.

The State fishery force, or, as it is commonly called, the "Oyster Navy," is now con-

ducted under the act of 1880, chapter 198. When the service was first established it was expected that it would not only be self-sustaining, but yield a considerable revenue to the State. In both these respects the service has proved a failure, and has not been as efficient in any respect as was anticipated.

Practically the service is a failure. The force is not efficient; the sloops are not suited to the service, and the steamer is unfit for it. And the service itself is regarded by many more as an instrument of personal or partisan interest than as a means to sustain a public policy.

The disbursements for this service for the fiscal year 1880 were.....	\$41,784 97
Receipts for the same year.....	19,611 04
This deficiency paid out of the Treasury.....	\$22,173 93
The receipts from the service for the fiscal year 1881.....	\$44,925 71
Disbursements for the same year.....	33,403 62
Excess of receipts over expenditures.....	\$6,522 09

This excess, thus for the first time for years relieving the Treasury from a heavy charge, is to be attributed to the more efficient provisions of the act of 1880. The receipts from licenses are more than doubled, while a reduction of salaries has diminished expenditures.

Under the present and under preceding laws there are two classes of oyster-men—those who take by rakes or tongs, and those who take by scoops or dredges. The former are obliged to get a license from the clerk of the county of their residence to take oysters within prescribed limits, and the revenue derived from these licenses goes to the public schools of such county. The latter get license from the Comptroller to take oysters in the open bay and sounds, and within defined limits, beyond which they are not to go, and the revenue from such license is paid into the State Treasury. The whole service for enforcing the laws as to both classes or protecting the rights of either is borne by the State, while certain counties get the entire revenue from the one class.

The act of 1880, chapter 36, regulates the taking of oysters in the Potomac River. This act, to take effect, requires the passage of a similar act by the State of Virginia.

Upon this subject the Governor says:

For myself, upon some consideration, I have formed conclusions that moderate dredging improves the beds, while, upon the other hand, if it continues as now carried on, the period will not be far distant before the beds are practically destroyed. What is to be done in the conflicting views and interests is the trouble.

A system something of this kind I would suggest: That the present lincs, or others that may be more convenient or eligibile, be fixed separating the tonging from the dredging interests; that the sloops be sold or transferred to the counties to protect their local interests, and to have whatever revenue can be derived from it without conflicting with the general revenue to be derived from the trade for the State; that the dredgers be obliged to take out licenses as now provided, but at a nominal charge; that the dredging-grounds be divided into three districts, well defined

and easily distinguishable, and as nearly equal in oyster surface as can be; that but one of the districts be open to dredging for the season, and the other two in successive years, then returning to the one first opened; that the enforcement of the regulations of this system will require an active service of four or six steam-tugs; will be somewhat expensive, and will require considerable revenue. To this end, the oysters ought to be taxed by the gallon and bushel, and the taxes paid through stamps and permits to be sold under rules prescribed by the Comptroller, by clerks of courts, officers of the steamers, and others that he might designate; that no companies or individuals in the State should transport or carry any packages containing oysters, whether shucked or in the shell, unless duly stamped, and no vessels to carry them out of the waters of the State without having the packages stamped, or if in bulk the quantity permitted. All these to be enforced by severe penalties, and, in case of violation of any of its provisions, vessels to be confiscated, or, if fined, the vessel to be held for the fine.

I feel that a system perfected upon some such basis would insure a large revenue, sufficient not only to support the service, but yield a considerable amount to the State. It does appear hard that while real estate and every other industry is taxed for the support of the State, this one great productive branch should be measurably exempt.

On the subject of the inspection of tobacco great differences of opinion exist, both among planters and buyers.

For the fiscal year ending September 30, 1880, the receipts from the five warehouses were.....	\$87,613 05
Total disbursements, except for salaries of inspectors, insurance, and ground-rent.....	82,988 90
Net earnings.....	\$4,624 15

But, as against these earnings, the sum of \$13,668.07 was paid by the Treasury to the inspectors for their salaries, and for insurance and ground-rent, leaving a deficiency of \$8,645.54 as a charge upon the Treasury.

For the fiscal year ending September 30, 1881, the receipts were.....	\$75,320 02
Disbursements, except for salaries of inspectors, etc.....	64,734 90
Net earnings for fiscal year, 1881.....	\$10,585 12

But, as against these earnings, the sum of \$10,898.11 was paid by the Treasury to the inspectors for their salaries, and for insurance and ground-rent, leaving a deficiency of \$312.99 as a charge upon the Treasury, showing, however, in this respect, a considerable improvement over preceding years.

Great complaint is made of the mode of inspection, that while it inspires no confidence or gives no guarantee as to the quality of the article in the package, its imperfections tend to encourage false or careless packing. The market for this important product is impaired in the principal foreign marts. Buyers for shipment abroad are subject to reclamations, and the traffic that should be buoyant is embarrassed in every stage of progress toward the manufacturer.

There was appropriated for the support of the State House of Correction for the fiscal year 1880 the sum of \$31,400, and there was paid out of the Treasury for such support the sum of \$31,129.27; other expenditures were

made, but the receipts of the institution met them.

The appropriation for the fiscal year 1881 to this institution was \$45,000; \$20,000 of which was to be expended in the erection of additional workshops and for the purchase of land, thus leaving \$25,000 for the support of the institution proper, and in addition there was appropriated \$400 to pay insurance on buildings. The tables of the Comptroller show that \$30,400 was paid out of the Treasury on this appropriation.

The report of the treasurer of this institution shows that the total expenditures for its support for the fiscal year 1881 were..... \$29,894 91
Total receipts from labor, etc..... 4,158 76

Balance of expenditures..... \$25,736 15

This shows an excess of \$736.15 over the appropriation.

There was \$6,687.50 paid for the purchase of land; no additional buildings were erected, leaving the balance of the appropriation of \$20,000 untouched.

There were during the year 414 prisoners received and 405 discharged, but one having died, and there remained September 30, 1881, 179 prisoners; of the 414 so received 202 were white males and 44 white females, 128 colored males and 40 colored females.

The Penitentiary paid into the Treasury over and above all expenditures, for the fiscal year 1880, the sum of \$13,001.85, and for the fiscal year 1881, \$7,326.43. The report made by the president and directors of the Penitentiary for the fiscal year 1880 shows that there were in prison on November 30, 1880, being the end of the fiscal year for that institution, 591 prisoners, of whom 191 were received during the year.

The amount of State taxes assessed upon corporations in Maryland was \$112,504—a considerable gain over the figures of any preceding year since the passage of the law by which such properties are made to contribute a share of the expenses of government. The increase has principally been made by bringing within the reach of assessment the capital stock of corporations that had previously escaped taxation. The total assessed value of the shares of stock of all the corporations in Maryland is \$59,166,806; they hold \$20,302,619 worth of real property; the amount of credit for investments paying taxes is \$1,363,051; the investments in mortgages on real property liable to taxation foot up \$4,415,245, and the State tax on the balance is \$62,137. The savings-banks held in 1881 \$24,582,591 of deposits; but only about one fourth of this sum was liable to taxation, yielding a revenue of \$12,373. The total assessed value of real and personal property was \$461,459,939; the net basis of assessment of corporations was \$61,311,375, and when from these showings are subtracted \$20,831,846 for the real property of corporations, it leaves as the full amount liable to State taxes, \$501,939,468, of which \$225,877,908 is located in the city of Baltimore.

A division exists in the Democratic party of this State between Governor Hamilton and his supporters on the one hand and the party organization as now controlled on the other. It is contended that the organization is in the hands of a few men who manage it for the advancement of their personal interests, and that their management has led to extravagance in the government and electoral abuses, especially in the city of Baltimore. The matter of the registration of voters has aroused wide-spread interest. No new and systematic registration has been made for years, and it is contended that the lists are encumbered with the names of non-residents and dead men, giving ready opportunity for fraud.

According to the census of 1880, there were employed in cotton manufacturing in Maryland 2,325 looms and 125,014 spindles, with 4,159 hands. Coal produced, 2,228,917 tons. The tobacco-crop in 1880 aggregated 26,082,147 pounds, against 15,785,339 pounds in 1870, an increase of 10,296,808 pounds, or nearly 70 per cent. The crop of wheat in 1880 was 8,004,484 bushels, produced on 569,246 acres, and showing an average of a little over 14 bushels per acre, which is a great improvement. In 1870 the wheat-crop was 5,774,504 bushels, showing an increase of 40 per cent for 1880. The corn-crop in 1880 was 16,237,621 bushels, against 11,701,817 bushels in 1870, an increase of 40 per cent, with a yield of 24½ bushels per acre. The oats-crop was 1,794,872 bushels, yielding 17 bushels per acre—only a little more than half as much as was produced in 1870. The crop of rye was 288,371 bushels, against 307,089 bushels in 1870. The culture of tobacco is being resumed in the southern Maryland counties. Anne Arundel and Calvert have increased their crops 30 per cent; Charles County, 150 per cent; and both Prince George's and St. Mary's have nearly doubled theirs. In other words, the effects of the war and the changes in the labor system are nearly all readjusted. The table on the following page gives the yield of the chief crops by counties.

According to the census, the whole number of elementary schools in the State is 2,020; schools for colored children, 390; number of school-buildings, 1,934; total seating capacity of the schools, 150,832. The number of white male teachers is 1,079; of white female teachers, 1,613; of colored male teachers, 232; of colored female teachers, 157—total, 3,081. Of these teachers, 1,185 have high-school education; 424 normal-school training; and 213 college education. The average salary is \$31.89 per month. The number of pupils in attendance during the year 1880 was: white male, 65,256; white female, 57,346; colored male, 13,366; colored female, 13,167—total attendance, 149,135. Sources of income: State taxes, \$551,924.32; county, town, and city taxes, and other special taxes, \$733,250.71; tuition fees, \$6,423.17; all other sources, \$87,992.56—total,

COUNTIES.	INDIAN CORN.		OATS.		WHEAT.		TOBACCO.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Pounds.
Allegany	8,661	242,291	8,772	52,570	7,549	67,458	2	1,115
Anne Arundel	29,674	693,863	5,103	60,798	10,854	98,147	6,271	4,441,010
Baltimore	39,433	1,219,393	16,264	314,060	28,639	393,752	12	9,601
Calvert	10,843	215,134	865	7,664	6,551	50,170	6,848	3,886,845
Caroline	30,555	512,500	956	8,854	18,296	187,201	1	1,422
Carroll	31,983	1,003,986	11,972	262,453	40,077	579,333	162	137,171
Cecil	25,764	847,754	7,043	190,790	29,865	471,045	43	59,036
Charles	25,922	411,996	2,423	13,230	15,042	103,133	7,913	5,145,509
Dorchester	39,380	644,957	1,107	10,194	25,979	197,905	.....	.....
Frederick	52,002	1,794,956	5,051	94,267	33,767	1,418,542	429	370,840
Garrett	3,714	90,777	8,657	171,723	4,122	44,399	4	1,927
Harford	26,506	1,015,762	10,189	232,339	25,143	420,850	52	63,085
Howard	17,925	532,099	2,556	46,594	13,445	305,555	208	133,930
Kent	29,937	800,005	1,388	19,503	37,531	556,947	.....	.....
Montgomery	35,287	1,020,573	3,126	59,537	35,673	615,702	1,058	806,036
Prince George's	23,897	656,888	2,798	37,395	41,223	558,353	9,637	6,375,246
Queen Anne	33,653	978,031	1,614	22,944	14,131	129,946	.....	.....
St. Mary's	23,383	360,636	1,356	11,337	16,534	155,677	5,523	4,429,316
Somerset	22,594	397,096	3,776	49,152	8,032	83,312	2	1,355
Talbot	26,053	691,919	794	12,257	33,129	468,316	..	.....
Washington	31,910	1,090,972	2,574	52,497	56,923	1,024,769	5	7,050
Wicomico	41,214	447,519	1,363	10,641	3,720	27,034	3	1,383
Worcester	44,583	568,009	6,045	49,013	5,521	41,438	1	265
Total	664,893	16,237,621	101,127	1,794,872	569,246	8,004,484	38,174	26,082,147

\$1,379,590.76. Expenditures, \$2,026,296.57. Illiteracy during 1870, between the ages of ten and twenty-one, was 7,296; in 1880 this number is reduced to 4,530. Thus, during the past decade, while the population of the State has increased, the number of those between the ages of ten and twenty-one who can not read and write has been reduced about one third. The number over ten years of age who can not read is 111,387; who can not write, 134,488, of whom 44,316 (36,027 native and 8,289 foreign) are white, and 90,172 colored.

There are 700 dredging-boats, paying \$916,-300 to 5,600 men; 550 scraping-boats, paying \$297,000 to 2,200 men; 1,825 canoes, with 5,148 men, earning \$1,158,300; and 200 runners, with 800 men, at \$166,400 for the season, making a total of 13,748 men engaged in catching oysters in Maryland, with wages and earnings amounting to \$2,538,000 during every oyster season, or an average of \$184.60 for each man. Invested in oyster-boats in Maryland the summary is:

700 dredgers, at an average of \$1,500.....	\$1,050,000
Outfit of same.....	70,000
555 scrapers, at an average of \$300.....	440,000
200 runners, at an average of \$1,500.....	300,000
1,825 canoes, at an average of \$100.....	182,500
3,275 Total	\$2,042,500

Baltimore is the great center of the packing-trade. During the census year the number of vessels loaded with oysters arriving at that port was 9,543, bringing 7,252,972 bushels. In addition to this amount, there were 25,000 bushels brought by the bay steamboats, making a total of 7,277,972 bushels, of which 3,769,353 bushels were packed raw, 2,689,939 bushels cooked and hermetically sealed, and 818,680 bushels used for local consumption. The amount of capital invested in the business is \$2,338,300, and the estimated value of the packing-houses \$1,360,966. The number of shuckers employed by the oyster-packers of Baltimore is 6,627, of which 4,167 are males and 2,460 are females.

From the prolific beds of the Chesapeake Bay several million bushels of oysters are annually taken to restock the exhausted beds of other localities, and equally as many for consumption in Boston, New York, and other Atlantic sea-ports. More than 200 vessels, averaging in value \$3,000 each, are, for eight months of the year, engaged in the trade between the bay and Northern cities. The oysters shipped North during the winter are used for immediate local consumption, with the exception of those carried to Fair Haven, Connecticut, which are packed and shipped elsewhere. Those taken North in the spring are almost exclusively for bedding purposes. They are planted on the bedding-grounds at New York, Providence River, and other places, and allowed to remain from spring to winter, during which time they fatten rapidly, and when taken for use are much superior to what they were when planted. During the census year the shipments of oysters in shell from Maryland to Northern cities amounted to 2,021,840 bushels.

The following is a summary of the Maryland oyster business:

CAPITAL INVESTED.	
In packing.....	\$3,928,376
" boats.....	2,042,500
" can-making, ship-building, etc.....	250,000
" local trade	25,000
Total.....	\$6,245,876
Production and disposition in bushels, including 1,000,000 brought from Virginia:	
Catch	10,569,012
Packed	7,653,492
Shipped North.....	2,021,840
Local consumption.....	1,893,680

Persons employed and their earnings:		
EMPLOYÉS.	Number.	Wages and earnings.
Employes of packing-houses.....	8,639	\$777,779
On oyster-boats.....	13,798	2,537,940
All others.....	1,990	504,802
Total.....	24,427	\$3,820,521

The average number of oysters to a bushel is about 175, at which rate there are annually taken from the Chesapeake Bay and its tributaries (in Maryland and Virginia) over 3,000,000 oysters (17,406,332 bushels), or about sixty for each inhabitant of the United States. In this trade nearly 10,000 vessels and over 40,000 people are employed; while the total amount of capital invested reaches \$7,606,976, and the amount of wages earned \$6,956,444.

The following table gives the population of the State by counties, as finally returned by the census of 1880, and as compared with the returns of 1870:

COUNTIES.	1880.	1870.
Allegany.....	38,012	38,536
Anne Arundel.....	23,526	24,457
Baltimore.....	89,836	63,387
Baltimore City.....	332,313	267,354
Calvert.....	10,538	9,865
Caroline.....	18,766	12,101
Carroll.....	30,992	28,619
Cecil.....	27,108	25,374
Charles.....	18,548	15,738
Dorchester.....	23,110	19,453
Frederick.....	50,482	47,572
Garrett.....	12,175	.....
Harford.....	23,042	22,605
Howard.....	16,140	14,150
Kent.....	17,605	17,102
Montgomery.....	24,759	20,563
Prince George's.....	26,451	21,133
Queen Anne.....	19,257	16,171
St. Mary's.....	16,934	14,944
Somerset.....	21,663	18,190
Talbot.....	19,065	16,137
Washington.....	35,561	34,712
Wicomico.....	15,016	15,802
Worcester.....	19,539	16,419
State.....	984,943	780,804

The Democratic State Convention met in Baltimore on the 24th of June, and renominated Comptroller Keating. The following platform was adopted:

To the Democratic Voters of Maryland:

You have passed since 1867 through many severe conflicts; but you have maintained the control of the internal affairs of the State, and have kept the State in steadfast opposition to the purpose of the Republican party to centralize the powers of the Federal Government.

Your success has been wholly due to your collective power of grasping the questions which concern your interests, and of enforcing obedience to your requirements.

Under the influence of different causes, an undue part of the burden of taxation, on account of the indebtedness of the State, and for the payment of the expense of the State, county, and municipal governments, was imposed for many years upon your houses and lands.

In 1876 your representatives in the General Assembly, supported by your hearty encouragement, commenced to check this growing evil.

They were of the opinion that all forms of wealth in this State not exempt from taxation by irrevocable contract or because of considerations of public good, ought to bear their just proportion of the public burdens.

The General Assembly of 1878 and of 1880, influenced by the same convictions, maintained the same policy, and, aided by the wise adjudications of your courts, succeeded in distributing more equally the burdens of the public debt and of the expenses of State, county, and municipal government.

The registration of the voters of this State made by the Republican party under the Constitution of 1864 admitted to the privilege of the elective franchise persons not entitled to vote in this State, and excluded from that franchise a large body of citizens who actually possessed the right to vote. You have endeavored to correct the lists then made by means of the revisions authorized by the acts of 1867, chapter 336; 1868, chapter 297; 1870, chapter 459; 1874, chapter 490; and 1876, chapter 249.

A more thorough method of correction must be applied. The remedy to be adopted is open to debate.

The State Convention declared in 1879 that the General Assembly ought further to secure fairness in elections by providing for a correct and accurate registration by competent officers, at the earliest practicable period of time, of the names of all persons entitled to vote in this State.

The great majority of the Democratic-Conservative members of the General Assembly endeavored to fulfill this obligation.

It is the duty of the convention to insist upon the ample redemption of the pledges given by its predecessor in 1879.

Laws regulating the registration of qualified voters, and laws regulating the conduct of elections at which such voters may cast their ballots, are collectively intended to afford opportunity for the fair expression of the opinions of those who form the elective body of the State. Such laws ought to form part of one well-digested article in the Code.

This convention, therefore, assumes the responsibility of naming a committee, whose duty it shall be to prepare and present to the next General Assembly, at the opening of its session, a complete and impartial system, embodied in one article, providing for the registration of qualified voters, and for the conducting of all elections in this State at which such qualified voters may be authorized to cast their ballots.

The committee shall consist of the Governor and Attorney-General of the State, Charles B. Roberts, of Carroll; Henry D. Farnandis, of Harford; Philip Francis Thomas, of Talbot; and S. Teackle Wallis, of Baltimore City. We ask you to instruct the Senators and delegates whom you may nominate to give their fullest and most cordial aid in perfecting the bill thus presented, and enacting it as a law.

The convention is of the opinion that the interests of public justice require that the methods of selecting the grand and petit juries, of which the greater part of this State has now the advantage, should be by proper legislation extended to those portions of the State which are denied the protection of this improved system.

It is also of the opinion that further changes are necessary in our criminal law to make it completely effective as a means of prevention and punishment.

We, therefore, request those to whom we have deputed the public service of presenting to the General Assembly the draft of a new article in the Code relating to registrations and elections, to add to their duty the framing of such bills necessary to the perfection of our jury system and criminal law as they may have time and opportunity to prepare.

We ask you to instruct your Senators and delegates to give their cordial aid in perfecting such reforms.

This convention expects you to enjoin upon those who may represent you in the Senate and House the duty of reducing the expenses of the General Assembly to the smallest amount compatible with efficient public service, and of regulating such expenditures by positive laws. The services rendered by representatives to their constituencies or to the people of the State are marred, if such agents afford any opportunity for reproach by their negligence or waste in public expenditures.

In conclusion, we now commit to you the conduct of the campaign. It is your duty to select as your representatives in the General Assembly of 1882 the ablest and most respected of those who share your convictions, to the end that your proper influence

may be fully exerted and your purposes be carried into complete effect by the enactment of adequate laws.

The Republican State Convention met at Cambridge on the 6th of October, and nominated Thomas S. Gorsuch, of Frederick, for Comptroller. The resolutions adopted set forth the indissoluble union of the States; the supremacy of the national Constitution and the laws passed in pursuance thereof over any State laws and ordinances passed by any other authority whatsoever; the complete independence of the executive, legislative, and judicial departments of the government, and the rightful supremacy of each in its own sphere; the equality of all citizens before the law; the free and fair expression of the will of the people through the ballot-box; the honest count or declaration of the will so expressed, and the duty of all to acquiesce in the popular will so ascertained; the honest payment of the public debt; the maintenance of the public faith, credit, and honor; a stable metallic base of the country's currency for the security of the people's business and savings, and at par with the monetary standards of the commercial world; an honest, efficient, and economical public service, and its exemption from political fluctuations; the right of the people to have all official positions filled by the most capable and honest, regardless of any other consideration whatever; the promotion of general intelligence, so far as can constitutionally be done, at the public expense; the strict enforcement of laws for the protection of the civil rights, the person and property of the citizen; the promotion of national industry; the development of the national power, wealth, and independence, and the increase of the happiness of the people; that it is the duty of Congress at once to provide an improved method of ascertaining the result of the presidential election, and make further provision for a case of vacancy of the presidential office; also, to revise and make more efficient the laws designed to protect the ballot-box in national elections, and to refuse to admit to seats in that body or to any official position under the national Government any man whose right to such seat or position rests upon or is tainted by bribery, fraud, or violence.

The platform also states that registrations and elections as conducted in Maryland are a burlesque upon republican institutions, and the demand of the Republicans of the State two years ago is repeated, that Democratic higgling with the registration of votes shall cease, and that the Legislature shall in good faith pass such laws as will secure an honest registry, free vote, and fair count; that primary elections be recognized by law, and bribery and other means of fraud punished at legal elections; condemning the creation and continuance of superfluous offices, extravagant salaries to State officials, and prostitution of the public works of the State for the purpose of political corruption as grievous and unneces-

sary burdens upon the people, and asking for a reduction of expenditures; for a system of public schools worthy of the State; for a system of free public roads for better intercourse between sections; a revision of the license law, whereby burdens of taxation shall rest on capital and not as now upon enterprise and industry, and the abolition of distraint for rent; that no debt shall be entitled to more stringent means for collection than that for labor done. The resolutions declare that the leaders of the Democratic party have betrayed the trust reposed in them by their utter disregard of all pledges, and all good citizens of the State are called upon to vote for the Republican nominee for Comptroller, and for worthy men placed in nomination for the Legislature by the Republican party, so that a good and honest administration may be obtained.

MASSACHUSETTS. The legislative session of Massachusetts commences annually on the first Wednesday of January. In the Senate, Robert Bishop was elected President by a unanimous vote; and in the House Charles J. Noyes was chosen Speaker by a vote of yeas 232, blank 1. Soon after a resolution was adopted, appointing a committee to unite with a like committee of the Senate to inform the Governor that both Houses were ready to proceed to public worship. They did so, and reported that the Governor awaited their movement. An adjournment was at once made, at 1.30 P. M., and the Governor with his Council, the members of the Senate, and the members of the House, were escorted to King's Chapel by the First Corps of Cadets, in which the election sermon was preached.

The preacher took for his text the words of Proverbs xxix, 18, "Where there is no vision, the people perish," and said: "The excellent custom which we observe to-day is peculiar, so far as I know, to our own Commonwealth. Connecticut had election sermons for a long period, New Hampshire and Vermont have had a few, and Rhode Island and New York a very few. But in this State the custom has been preserved from the year 1664 to this day."

The session thus begun continued one hundred and twenty-nine days, and closed on May 13th. Three hundred and five acts and seventy-two resolutions were passed. Some of these acts were to the following effect:

The penalties for drunkenness were fixed thus: A fine of one dollar, and such portion of the costs as the court may determine, for a first offense; a fine of five dollars and costs for a second offense; and a fine of ten dollars and costs for a third offense. For second and third convictions the alternative of two months and of one year's imprisonment, respectively, is provided.

The law of 1880, prohibiting at the discretion of licensing boards the maintenance of any obstruction to public view of the premises upon which intoxicating liquors are sold, was made compulsory.

It was also enacted that applications for licenses to sell liquors shall be advertised; that the objection of an owner of real estate adjoining that upon which liquor is to be sold may prevent the issue of a license therefor; that licenses to sell liquors shall be granted only in those cities and towns in which there is a direct vote therefor; that in non-license municipalities club-rooms in which liquors are dispensed or sold shall be deemed common nuisances.

The change of the Constitution proposed by the Legislature of 1880 was concurred in. This provides that no person having served in the army or navy of the United States in time of war, and having been honorably discharged from such service, if otherwise qualified to vote, shall be disqualified therefor on account of being a pauper; or, if a pauper, because of the non-payment of a poll-tax. The act of legislation necessary to submit it to the people at the next State election was also passed. The State thus introduces into its fundamental law a provision that its soldier-paupers may vote without even the payment of the tax to which other people are subjected, when it is at the same time paying \$400,000 annually to prevent the possibility of soldiers becoming paupers.

For the purpose of obviating the evils of double taxation, it was enacted that when any person has an interest in taxable real estate as holder of a mortgage, given to secure the payment of money, the amount of which is fixed and certain, the amount of said person's interest as mortgagee shall be assessed as real estate in the city or town where the land lies, and the mortgagor shall be assessed only for the value of said real estate, less the mortgagee's interest in it, and that savings-banks and institutions for savings, including the Massachusetts Hospital Life-Insurance Company, shall not be required to pay to the Treasurer of the Commonwealth taxes upon such portion of their deposits as is invested in loans secured by mortgages of taxable real estate.

The net yearly income of vessels engaged in foreign commerce, and not the value of those vessels, is hereafter to be taxed.

The tax on deposits in savings-banks and institutions for saving was reduced from three fourths to one half of one per cent.

The bill providing for a direct tax for the current expenses of the State fixed the sum to be levied for that purpose at \$1,500,000, the amount of the same tax for the previous year. Of this gross sum the city of Boston pays \$619,110.

Upon the petitions of many citizens of eminence it was enacted that criminal proceedings may be instituted against a person from whom a divorce has been obtained for a criminal offense; that all decrees of divorce shall, in the first instance, be decrees *nisi*, to become absolute after the expiration of six months from the entry thereof on application of either party; that the court before which any libel for di-

vorice is pending may make such orders and decrees concerning a temporary separation of the parties, the separate maintenance of the wife, and the custody and support of minor children, as in its judgment the interests of the parties and the necessities of the case demand, and that the party against whom a divorce has been or may hereafter be granted shall not marry within two years from the time of the entry of the final decree of divorce; at the expiration of said time said party may marry without petition to the court.

Damages of not less than \$500 nor more than \$5,000 may be recovered by action of tort for loss of a life caused by the negligence or carelessness of a railroad corporation, or by the unfitness for their duties of its servants or employés.

There were also added to the statutes a measure providing that, under a penalty of \$100 for each person thus employed, no railroad company shall place in a position that requires him to distinguish form or color signals any person who has not a certificate from some competent person that he is not affected by color-blindness.

Of the laws relating to the subject of the elections, one provides that there shall be appointed in each voting precinct of the city of Boston, by the mayor, with the approval of the Board of Aldermen, at some time before the first day of October in each year, one warden, one deputy-warden, one clerk, one deputy-clerk, two inspectors, and two deputy-inspectors, qualified voters in the ward of which each precinct forms a part, who shall hold office for one year. Either of said officers may be removed at any time by the mayor, with the approval of the Board of Aldermen, upon written charges of incompetence or official misconduct, preferred either by the city clerk or by not less than six qualified voters of the ward in which the officer is appointed to act. Vacancies are to be filled by new appointments, and deputies are to serve only in the absence of their superiors. It is further provided that upon the petition, in writing, of ten qualified voters, presented at least fourteen days before an election, the mayor shall appoint a supervisor from each of the two great political parties, who shall watch the voting and witness the counting, that no ballots shall be taken from the boxes until after the polls have been closed. By another act registration in Boston is prohibited between the close of registration and the day of the next succeeding election.

Each city that chooses may have a board of registrars of voters, which shall consist of one of its inhabitants, who shall hold no other office, its clerk, and the chairman of its board of assessors.

Upon the affidavit of any legal voter that he believes that a certain person has been illegally registered, investigation of such registration is to be made, and the name of the suspected

person is to be stricken from the lists if it be proved that he is not a legal voter.

The smoking of tobacco or the drinking of intoxicating liquor in a polling-place while an election is in progress, is to be punished by the arrest of the offender, and by the imposition upon him of a fine of not more than \$20.

The sale as butter or cheese, of any imitations of those substances, shall be punished by a fine of \$100, or imprisonment for thirty days, for a first violation of the law, and by a fine of \$200, or imprisonment for ninety days, for each subsequent similar offense.

During the session Henry L. Dawes was re-elected United States Senator. He was born in Cummington, Massachusetts, October 30, 1816; graduated at Yale College; he became a teacher and editor of the "Greenfield Gazette" and the "Adams Transcript"; then he studied and practiced law; and was chosen a member of the Legislature in 1848, '49, '50, and '52; member of the Constitutional Convention in 1853; District Attorney for the Western District of Massachusetts from 1853 to 1857. He was elected to the Thirty-fifth Congress and to each subsequent Congress until the Forty-fourth, when he declined to be a candidate. He was chosen Senator in 1875, and took his seat March 4th of the same year.

The balance in the Treasury at the beginning of the year 1881 was \$3,182,803; the receipts during the year were \$8,576,752 on account of revenue, and \$6,851,359 on account of funds, amounting to \$15,428,111, and making, with the cash on hand, \$18,610,914. The payments were \$8,113,860 from revenue, and \$6,025,102 from funds, amounting to \$14,138,962, leaving a cash balance, on December 31st, of \$4,471,952.

The amount belonging to the sinking funds is pledged for the payment, and is left temporarily in the Treasury on account of the difficulty of securing suitable investments. The amount actually available for the current expenses of the Commonwealth was only \$1,351,639, and the accounts show an actual deficit instead of a surplus. The ordinary expenses of 1881 were \$1,601,501, as compared with \$1,594,174 in 1880; the exceptional expenses \$5,240,875, as compared with \$4,532,258; total, \$6,842,377, as compared with \$6,126,433. But from this must be deducted \$2,243,437 for 1881 and \$2,038,895 from the total of 1880, being the corporation and national-bank taxes returned to cities and towns. This leaves the actual expenses \$4,598,939, as compared with \$4,087,537 in 1880.

The estimated payments for all purposes in 1881 are \$4,337,912; the estimated receipts, including cash on hand, \$4,120,357, showing a deficit of \$217,554. The estimates for 1882 are, payments, \$4,670,905; receipts, \$3,965,334; expected deficit, \$705,570.

Of the expenses in 1881 the following are the principal items:

Interest on the public debt.....	\$1,661,868
Legislative department.....	204,544
Extra session.....	33,594
Executive and other departments.....	80,221
Commissioners: viz., railroad, insurance, harbor and land, fisheries, and statistics of labor.....	60,100
Sundry other commissioners.....	18,098
Agricultural department.....	23,707
State printing.....	49,579
Educational.....	79,992
Judiciary.....	184,094
Charitable.....	382,600
Reformatory and correctional.....	327,484
Military.....	131,828
State and military aid.....	418,364
Troy and Greenfield Railroad and Hoosac Tunnel.....	528,263
Prison and hospital loan sinking fund.....	100,000
Consolidation of the general statutes.....	42,450
Improvement of the basement of State-House....	61,762
Public buildings.....	67,708

Total..... \$4,456,262

The sources of revenue and their estimated yield in 1882 are as follows:

Corporation taxes, net proceeds.....	\$420,000
Bank-stock tax, net proceeds.....	190,000
Savings-bank tax.....	1,000,000
Insurance taxes and licenses.....	360,000
State Prison and other institutions, income.....	102,000
Liquor licenses.....	130,000
Troy and Greenfield Railroad and Hoosac Tunnel.....	275,000
Other fees, and miscellaneous revenues.....	136,695

Total..... \$2,613,695
Add revenue cash in the Treasury..... 1,851,639

Total..... \$3,965,334

To meet the estimated deficiency under existing laws, including the requisite appropriation of over \$250,000 for the Hoosac Tunnel—being half the estimated expense of completing the tunnel and railroad—with other probable appropriations, a direct tax of \$1,500,000 will have to be levied for the following year.

The reduction of the tax on savings-bank deposits will occasion a large diminution of the revenue. The law, lowering the tax from $\frac{3}{4}$ to $\frac{1}{2}$ of one per cent, goes into effect partly in 1882 and fully in 1883. The tax yielded \$1,613,606 in 1881, and would have produced only \$933,722 under the new law. The increase in the State tax which will be necessary to restore the large amount of revenue thus cut off, which will be felt the more on account of the growing expenditures of the Commonwealth, may lead to the re-imposition of the tax on savings-bank deposits as the most convenient subject of taxation, since the system of indirect taxation is firmly rooted in Massachusetts. The amount of deposits in the savings-banks on October 31st aggregated \$230,444,479, an increase in twelve months of \$12,396,556; the number of depositors was 738,951, an increase of 32,556. There were 165 savings-banks and eighteen co-operative saving-fund and loan associations.

The corporation taxes assessed in 1881 amounted to \$1,976,763, of which \$1,477,408 was the share to be paid over, under the law, to cities and towns. The aggregate capital stock of corporations reported was \$301,724,794, being an increase over 1880 of \$50,159,417; the aggregate value of corporate real estate and machinery, \$166,062,580, being an in-

crease of \$5,387,120. Of the 1,859 corporations attended to, 22 had been dissolved, 39 were in process of dissolution, and 172 were new companies. Notwithstanding the increase in valuation, the amount assessed in 1881 was somewhat less than in the preceding year. The amount realized by the State was \$526,598. The amount of the tax on bank-shares was \$1,647,305. Of \$1,063,771 collected, the balance remaining to the Treasury, after paying \$871,534 to towns, savings institutions, insurance companies, and literary and charitable societies, was \$92,236. The insurance premium-tax amounted to \$132,959. Of life-insurance excess \$195,309 was collected. The Supreme Court has been applied to for a decision on the validity of the latter tax.

Of the public debt, amounting, January 1st, to \$32,799,464, the harbor improvement loan of \$400,000 was paid off in 1881, leaving the principal, on December 31st, \$32,399,464. Of this, \$17,738,966 consist of railroad loans, \$10,468,188 of war loans, and \$4,192,280 of loans for public buildings, etc. The amount of the sinking funds increased during the year from \$13,050,192 to \$14,285,781. The value of the securities held was about \$900,000 in excess of cost, and the value of lands to be sold for the benefit of the sinking funds, and of unsettled credits applicable to this purpose, about \$1,455,000 more; so that the funds amounted to more than half the debt.

The Governor has recommended the Legislature, on the ground of public honor, to provide some method for the Troy and Greenfield Railroad Company to redeem the tunnel and railroad. Under the control of the Commonwealth the works have been nearly completed. The final cost of the Hoosac Tunnel turned out to be nearly fourteen times the original estimate. In the year ending September 30th there were expended on construction account \$345,584, for completing the central shaft, the Greenfield depot, double track over more than half the line, etc. The sum required for completing the double track, and other work to be finished in the next two years, according to a resolve of the Legislature, is \$514,552, as estimated by the manager. The business of the line showed a large increase, though the rates were extremely low, as was the case with all through-traffic. The receipts for the year were \$245,457; the operating expenses, \$183,296.

The Commonwealth still owned in 1881 only a small minority of the New York and New England Railroad stock, and had ceased to control the property. The value of the stock had risen greatly in the market, the prospects of the road were good, and its completion by private capital assured.

The aggregate net indebtedness of municipalities in Massachusetts in each year, from 1871 to 1881, and the total property valuation and percentage of the debt to the same, were as follows:

YEARS.	Valuation.	Debt.	Percentage.
1871.....	\$1,497,351,686	\$39,421,298	*026
1872.....	1,696,599,969	45,221,745	*026
1873.....	1,763,429,990	53,380,118	*030
1874.....	1,831,601,165	64,904,069	*035
1875.....	1,840,792,728	71,784,006	*038
1876.....	1,769,359,431	72,165,156	*040
1877.....	1,668,226,792	72,049,685	*043
1878.....	1,568,988,210	68,864,685	*043
1879.....	1,529,521,014	67,728,557	*044
1880.....	1,534,756,802	68,512,927	*043
1881.....	1,634,239,976	65,403,691	*039

In the last two years 194 towns diminished their net debt, 78 increased it, and 23 did not change it; 50 towns, which had no debt in 1880, contracted none in 1881; 2 discharged their debts during the year, making 65 towns in the State without indebtedness; and in 46 the percentage of liabilities to valuation had increased. The gross interest-bearing debt of municipalities May 1, 1881, was \$87,352,750; the amount raised in 1881 by taxation for interest alone was \$5,241,165. The aggregate net debt of the municipalities showed for the twelve months a decrease of \$3,104,236. The aggregate local assessment of taxes for State, town, and county purposes for 1881 was \$24,180,245, of which \$1,500,000 was State tax, \$1,093,050 county tax, and \$21,587,195 local tax for municipal purposes, a proportion of 89 per cent. The total amount of sinking funds reported in 1880 was \$18,204,610; in 1881 it was \$19,839,483, an increase of \$1,634,873. Eighty-one towns increased their indebtedness by the amount of \$728,728. For water-works the gross debt was \$29,957,888, for which there were sinking funds amounting to \$3,757,005, leaving a net water debt of \$26,200,883, or 40 per cent of the net indebtedness.

The study and care which have been bestowed in Massachusetts upon prison management and criminal reformation have not prevented abuses in management from being committed, nor serious faults in the system from being retained. The authorities do not, however, neglect this subject, and efforts are continued to bring the system up to the highest standard. The State Prison at Concord has been placed under a new manager, who maintains a firm and humane discipline, and has effected a saving in the cost of the institution. The net cost was \$60,315 in 1878, the first year at Concord; but in 1880 it had been decreased to \$19,289, and the earnings increased from \$66.42 to \$120.98 for each man. The number of inmates in 1880 was 750, a decrease of 20. Of the 150 committed during the year, 96 were intemperate, 68 being of foreign parentage, 21 had been in reform schools, and 75 per cent had a fair education. The number of deaths was 18, of pardons 12. The criminal laws of the Commonwealth have lately been altered, so as to permit longer periods of confinement for habitual criminals, especially such as are of intemperate habits. The judiciousness of such a measure is illustrated by a report of the Boston House of Industry,

which states that, within four months, more than 1,600 persons were re-committed there, of whom hundreds had been sent there twice or three times before, scores a dozen times or more, and three of them seventy times and over. During 1881 there were twenty-four criminals sentenced to the State Prison who had served a previous term there, and some of them three or four terms. The Prison Commissioners have made the recommendation that the system of police supervision which is practiced in European countries be introduced, and professional criminals kept under constant restrictions and surveillance after they have been discharged from prison. The reformatory prison for women at Sherborn is reported as being very satisfactory in its workings. Of the 519 women committed in 1880, of whom four fifths were sentenced for vices of various kinds, only a small proportion were illiterate; 349 were married women; 90 were twenty-one years of age or under, and 294 not above thirty. Of the 456 intemperate women received, only 59 were of American birth. In relation to the project under consideration in the Legislature of establishing a reformatory house of confinement for younger male prisoners, the Commissioners of Prisons stated that, of the 561 prisoners committed to the houses of correction, with sentences of one year or more, 449 were not over thirty years of age, and 129 not over twenty, some of them being as young as fourteen. Under the laws of the State, youthful offenders, when under seventeen years of age, can be sent to the Reform School at Westborough, or to a county prison, except for serious crimes, for which they can be committed to State Prison; if above seventeen years of age, they can only be committed to a county prison or to the State Prison. The courts have been accustomed to send the most promising juvenile offenders, under seventeen, to the Reform School, and the rest to the county prisons. Many young men older than seventeen are sent to the county prisons for from one to three years, and even for terms exceeding three years, the judges being unwilling to degrade them by a felon's sentence. The evil effects of the county prisons or houses of correction, in which the most hardened and vicious criminals are confined, on youths whose characters are not formed, are so striking, and the benefits derived from the enforced discipline and industry so slight, without the influences of education, encouragement, and hope, that a reformatory would be likely to rescue and redeem many of this class from degradation and criminal courses. Another class for which such an institution is considered necessary is that of the younger habitual drunkards, who must be placed under restraint before their habit can be broken, and for whom the houses of correction are inappropriate and harmful in their effects. The reformatory would be still more useful in relieving the Reform School at Westborough of the more incorrigible and vicious boys. For the want of a more suitable place for youthful

offenders, this establishment has been diverted from its original purpose, and turned into a sort of house of correction instead of a school. The failure of the school is patent. Boys are often kept there for six, or eight, or even twelve years, till nearly or quite of legal age, because they are too bad to be discharged or bound out to service. They are not benefited themselves, and they exert a most mischievous influence on their younger companions. The Governor urges a complete change in the system. He proposes that no boy over fourteen be received, and that none be kept there for longer than three or four years. He would give it entirely the character of a school, abolish the prison bars and cells, and have the features of a home; if, after three or four years, a boy proves to be incorrigible, let there be an alternative sentence, with power on the part of the trustees to transfer him to the House of Correction for the remainder of his term; and if he improves during his stay, and a chance is found to place him at useful labor, let him have the opportunity. The number of inmates in the Reform School at the end of the year was only 117.

The insane are increasing rapidly—it is estimated at the rate of 200 a year; and soon the present accommodations will be insufficient. The need of a separate place for the criminal insane, which is strongly urged by those conversant with the subject everywhere, is spoken of by Governor Long, in his annual message, which also recommends a separate asylum for curable cases.

The Statistical Bureau has collated the reports of criminal trials, with the object of determining the proportion of crimes which is attributable to the abuse of liquor. Of the total number of sentences passed by the courts in twenty years, 60 per cent were for offenses directly connected with drinking—that is, for drunkenness, liquor-selling without licenses, etc. The object of the inquiry was to ascertain the proportion of the other offenses traceable to intemperance. In the courts of Suffolk County, during the year ending September 30, 1880, 16,897 persons were sentenced. Of these sentences 12,289 were for offenses directly connected with liquor, 12,221 being for drunkenness, and 68 for breaches of the license laws. The remaining offenses constituted 27 per cent of the total number. The tests for their connection with the use of liquor were (1) whether the criminal was under the influence of liquor at the time of the commission of the crime, or (2) at the time when he formed the intent; (3) whether his drinking-habits or (4) the drinking-habits of others were such as to bring him to a condition which induced the crime; and (5) whether he was an habitual, excessive, or moderate drinker. It appears that 2,097, or 45 per cent, of the 4,608 criminals were in liquor when the various offenses were committed; 1,918 were in liquor when the criminal intent was conceived; the intemperate habits of 1,804

were such as to lead them into a condition favorable to crime, and 821 were brought to such a condition through the intemperance of others. Of the total number convicted 1,158 were total abstainers, 1,918 moderate drinkers, and 1,317 excessive drinkers. Thus, according to these criteria, 84 per cent of all crime was found to be due to intemperance.

The screen law, passed in 1880 as an experiment for the discouragement of drinking, went into effect in 1881, having been made compulsory by an act of the Legislature. It requires dealers in alcoholic refreshments to remove all screens and barriers from the front of bars, so that an unobstructed view of the premises and the persons drinking there can be had from the street. When the act went into force, proprietors of drinking-shops in Boston patronized by the poorer classes at once discarded all obstacles to the view, but in the saloons of select patronage the compliance was only nominal. A sight of the bar could be obtained from the outside by peering intently through the glass doors, which had a single pane of ground glass replaced by a transparent pane, or one of the curtains partly down, or through the half-opened slat-doors, but to passers-by the interior of the saloons, in the day-time at least, was hardly more visible than before.

In the case of Lelia Robinson, who petitioned to the Supreme Court to be admitted as an attorney-at-law, the court, on September 8th, decided that under the laws of the Commonwealth a woman is not a citizen entitled to admission to the bar. This decision will necessitate legislation to establish the right of women to serve on public statutory boards. The Governor would have railroad companies subjected to strict limitations of their privileges. His suggestions on this subject were as follows:

I earnestly repeat my conviction that a law which permits private property to be taken for a railroad without the owner's consent, and without the decision first made by some impartial tribunal that such taking is a public necessity, is contrary to the Constitution and to justice. It should be amended at once, unless you hold that there are no private rights left which a corporation is bound to respect.

It is generally held in this country that common carriers, including railroad companies, are bound to render to all persons equal service upon equal terms, and that contracts giving to one person lower terms than are given to another for the same service ought not to be permitted on the part of corporations which enjoy their great powers only on the ground of their public usefulness. If the law of Massachusetts differs in this respect from that of other States, as I understand is the decision of our courts, it ought to be amended.

The Massachusetts militia is reported to have attained a degree of efficiency never excelled in the country. The annual cost to the State is about \$132,500, that being the amount expended in 1881. It is proposed to organize a regiment of heavy artillery and drill it in the manning of forts and the use of heavy ordnance, so that it would be of service for the defense of the coast in the event of a foreign

war. No State has such a body, while the entire regular artillery force of the United States is not sufficient to garrison the forts of New York Harbor.

According to the final census returns of 1880, the population of the State, by counties, together with the corresponding figures for 1870, was as follows:

COUNTIES.	1880.	1870.
Barnstable	31,897	32,774
Berkshire.....	69,032	64,827
Bristol.....	139,040	102,886
Dukes.....	4,300	3,787
Essex.....	244,535	200,843
Franklin.....	86,001	82,635
Hampden.....	104,142	75,409
Hampshire.....	47,232	44,383
Middlesex.....	317,580	274,353
Nantucket.....	3,727	4,123
Norfolk.....	96,507	89,443
Plymouth.....	74,018	65,365
Suffolk.....	387,927	270,802
Worcester.....	226,897	192,716
The State.....	1,733,085	1,457,351

The increase of population between 1875 and 1880 was from 1,651,912 to 1,733,085, or 131,173, being 63,388 less than the increment between 1870 and 1875, a falling off which is largely attributable to the industrial depression and the stoppage of immigration. The births recorded in 1880 were 44,217, being 3,922 more than in 1879; the marriages 15,538, or 1,736 more; and the deaths 35,292, being 3,491 more. The excess of births over deaths was 8,925, exceeding that of 1879 by 431. The rates for the year were 24.80 births, 8.71 marriages, 19.79 deaths, and 5.01 births in excess of deaths to every 1,000 inhabitants. The birth-rate, though slightly higher than that of the previous two years, is 2.23 per 1,000 lower than the average for thirty years, and lower than any other years except 1863, 1864, 1865, 1878, and 1879. The decrease is greatest in the districts in which there is the least immigration of foreign laborers. The birth-rate is therefore largest in the large towns, varying from nearly 30 per 1,000 in towns of 50,000 population and over, to 16.94 in those of 2,000 and under. There were 105.9 births of males to 100 of females, which is also the average for twenty-five years. The ratio of illegitimate births was much higher among the foreign-born population. The marriage rate was the highest of any year since 1874, but 1.68 per 1,000 less than the average for thirty years. It is nearly 2 per 1,000 greater in the sixteen large towns than in the rest of the State. The average age of 15,501 men married during the year was 28.9 years, and of 13,121 men married for the first time, 26.5 years; of 15,485 women married, 25.1 years, and of 13,956 women married for the first time, 23.8 years. The number of deaths was considerably greater than in any previous year. The rate was the greatest since 1876, .53 higher than the average for thirty years, .57 more than the last five years preceeding, but 1.3 less than the five

years 1871-'75. The epidemic of diphtheria continued, with some increase over 1879; diarrhoeal diseases of infants caused a much greater mortality than in the previous two years; infectious diseases were more prevalent; and pneumonia was excessively fatal. The death-rate of the sixteen cities was 22.1; of the rest of the State, 18.6. The month in which the greatest number of births occurred was August, which was followed by July, September, December, March, etc., in order. Against 3,584 births in August there were only 2,497 in June. The average age at death varies from 46.34 years in Dukes and Nantucket Counties to 23.34 in Suffolk County. Comparing the reported causes of death in 1880 with previous years, the order of fatality of the twelve diseases producing the greatest number of deaths places consumption at the head, as usual. Pneumonia is second, as it was the previous two years, and in 1874 and 1875; it was third in 1872, 1873, 1876, and 1877, always a leading source of mortality in the State. Cholera infantum, from having steadily fallen from the second place in 1872 and 1873, the third in 1874 and 1875, the fourth in 1876 and 1877, fifth in 1878, and sixth in 1879, has risen in 1880 to the third. Heart-disease, not always an exact term, was, as last year, fourth, having been only sixth to eighth in 1878 and the preceding six years. Diphtheria stands fifth, having declined from the second place in 1876 and 1877, and third in 1878 and 1879; if croup were included with it, the deaths would be 2,394 instead of 1,769, and its place would be third. Old age is sixth, being fourth or fifth previously since 1872. Paralysis is now for the fourth year seventh. Cancer has risen from the tenth, eleventh, and twelfth places to the eighth, as it was also in 1879. "Cephalitis" was ninth in 1880; bronchitis, as in 1879, was eleventh. Typhoid fever showed an extraordinary decline from the fourth place in 1872, sixth in 1873, seventh in 1874, eighth in 1875 and 1876, ninth in 1877 and 1878, to thirteenth in 1879, and has now risen again to the tenth.

The entire Massachusetts insurance for the last five years was \$3,760,583,892, the premiums amounting to \$67,601,667. Of this business, which is about one ninth of that transacted in the other States, the Massachusetts companies transacted nearly one third, foreign companies receiving over \$41,000,000 in premiums.

Under the legislation of 1880, the mutual aid and benefit societies made returns to the Insurance Department in 1881 for the first time, but the great diversity in their modes of doing business renders the statistical collation of their reports difficult. Most of the assessment or co-operative insurance companies are stated to be fair and honest organizations; but others, which can not legally solicit membership in Massachusetts, are notoriously fraudulent in their aims and methods. These companies, against which the commissioners warn the

public, are mostly from two or three Western States and from Pennsylvania.

The Commissioners of Inland Fisheries have in connection with the authorities of New Hampshire placed over a million salmon and California salmon young fry or eggs in the Merrimac in the last five years. They have distributed also nearly a million landlocked salmon among 131 localities, and have placed trout in eleven breeding-grounds in large numbers, and a few carp in forty localities. The building of fish-ways on the smaller streams has been encouraged, and improved models have been substituted for old ones. In their thirty-five ponds, one of which is reserved for experiments, young fish are cultivated in increasing numbers, 100,000 young trout and 300,000 landlocked salmon being ready for delivery to applicants free of charge in the spring. A sufficient number of carp have been secured for breeding purposes to produce hundreds of thousands for distribution in a few years. A controversy has arisen with the Connecticut authorities with respect to the shad-fisheries of the Connecticut River. The fish-way at Holyoke is defective, and the fishermen in Massachusetts are not prevented from taking fish on the spawning-grounds. In reference to these grounds of accusation, the Commissioners make the following explanation:

There can be no question that, had Connecticut shown any disposition to deal fairly in this matter, the Massachusetts Commissioners would have exhausted every means to correct any deficiency in the fish-way, and in that effort would have been fully sustained by the State. As to the sin of taking shad on their spawning-beds, imputed to the Massachusetts fishermen, it should be observed that, no matter where or at what time of the year a fish is killed, its spawn is equally destroyed. The returns show that Connecticut, in 1879, took thirty-two times as many shad as did Massachusetts, and destroyed, therefore, thirty-two times as much spawn, which otherwise would have been deposited in the river. They show conclusively that, while the breeding-grounds are in this State, the catch of fish is almost wholly in Connecticut.

The products of the Cape Cod fisheries for 1881 amounted to \$1,412,000. Provincetown realized \$70,000 from the whaling interests and \$352,000 from codfish; Wellfleet \$171,000 from mackerel, and the Chatham fisheries yielded \$165,000.

The Gloucester fishing fleet in 1881 numbered 437 vessels, being four less than in the preceding season; of these, 343 belonged to the port. The Georges fishery was less actively pursued than in the preceding year. The summer mackerel fleet numbered 149 vessels, 81 of which confined their operations to this fishery. There were 55,430,070 pounds of codfish and halibut together brought into the port in 1881, as against 58,544,450 pounds in 1880, and 53,345,900 pounds in 1879.

The catch of codfish and halibut on the different fishing-grounds visited by the Gloucester fleet was as follows for the three years:

FISHING-GROUNDS.	1881.	1880.	1879.
	Pounds.	Pounds.	Pounds.
Bank codfish	20,955,280	20,247,000	18,247,000
Georges codfish.....	22,510,000	27,511,000	23,144,000
Shore codfish.....	3,245,300	1,721,000	3,742,000
Total codfish ...	46,710,580	49,479,000	40,133,000
Bank halibut.....	7,178,800	7,940,000	11,717,400
Georges halibut.....	1,087,400	1,125,450	995,500
Fletched halibut....	25,000	.....	.....
Greenland halibut...	423,290	.....	500,000
Total halibut ...	8,719,490	9,065,450	13,212,900

There were 163,851 barrels of sea-packed mackerel received at the port in 1881, as against 129,620 barrels in 1880. The tale of frozen herring received was 13,318,000, against about 9,000,000 in 1880, and 6,000,000 in 1879. The shore fleet landed in the last five months of the year 1,933,000 pounds of hake, pollock, haddock, and cusk. The shore herring catch was 8,632 barrels.

The State Greenback Convention assembled at Worcester on August 24th; John Hawes was elected permanent president. The following are the nominations: Governor, Israel W. Andrews; Lieutenant-Governor, George Dutton; Treasurer, George Foster; Secretary, A. B. Brown; Auditor, Wilber T. Whitney; Attorney-General, D. O. Allen.

The Republican State Convention assembled in Worcester on September 21st. W. W. Crapo was chosen president. The number of delegates present was 1,038. The nominations were as follows: For Governor, John D. Long; Lieutenant-Governor, Byron Weston; Attorney-General, George Marston; Secretary of State, Henry B. Peirce; Treasurer and Receiver-General, Daniel A. Gleason; Auditor, Charles R. Ladd.

The nominations made by the Democratic State Convention were as follows: Governor, Charles P. Thompson, of Gloucester; Lieutenant-Governor, James H. Carleton, of Haverhill; Secretary of the Commonwealth, Michael T. Donohoe, of Somerville; Treasurer, William A. Hodges, of Quincy; Auditor, Charles R. Field, of Greenfield; Attorney-General, Patrick A. Collins, of Boston.

The nominations for State officers made by the Prohibition party were as follows: Governor, Charles Almy, of New Bedford; Lieutenant-Governor, John Blackmer, of Springfield; Secretary of the Commonwealth, Solomon F. Root, of Dalton; Treasurer, Thomas J. Lothrop, of Taunton; Auditor, Jonathan Buck, of Harwich; Attorney-General, Samuel M. Fairfield, of Malden.

The result of the election was the success of the Republicans, as follows:

FOR GOVERNOR.	
Long, Republican.....	96,609
Thompson, Democrat.....	54,586
Andrews, Greenback.....	4,889
Almy, Prohibitionist.....	1,649
Total vote.....	157,802
Long's plurality.....	42,023

MATURIN, EDWARD S., died May 25, 1881, aged sixty-nine. He was descended from a French Huguenot clergyman who escaped from France after the revocation of the Edict of Nantes and settled in Ireland. Both the son and grandson of this clergyman were ministers of the Established Church in Ireland. The father of Edward was the Rev. Charles Robert Maturin, curate of St. Peter's Church, Dublin, an eloquent preacher, but more widely known as a poet and romance-writer. One of the most successful efforts of his genius is the tragedy of "Bertram, or the Castle of St. Aldobran," which had an unexampled "run" at that period, being performed one hundred nights at Drury Lane Theatre. The copyright of this production was purchased by Murray for three hundred and fifty guineas, and the play brought the author one thousand pounds. The poet died in 1824, leaving two sons, the eldest William, now rector of All Saints' Church, Dublin, and the youngest Edward, who came to the United States in 1832, with letters of introduction from Thomas Moore, the poet, Richard Lalor Sheil, and other eminent persons in the world of letters. He entered the law office of Charles O'Connor, and afterward of Mr. Logan, as a student, and in due time was admitted to the bar. He had graduated at Trinity College, Dublin, with distinction, and pursued in this country his study of the Greek language and literature. The late Professor Anthon, of Columbia College, recommended him to a vacant professorship of Greek in South Carolina. He resided there for some years, and in 1842 married Harriet L. Gailliard, of that State. Returning to New York, he was engaged as instructor in the Greek and Latin languages and *belles-lettres* in that city for thirty consecutive years. He published several romances, among which are, "Montezuma, the Last of the Aztecs," which was dramatized and met with much success; "Benjamin, the Jew of Granada"; "Eva, or the Isle of Life and Death"; "Roman Tales"; "Lyrics of Spain and Erin"; "Bianca," etc. Mr. Maturin was greatly esteemed for his high moral and social virtues. His deeply rooted religious principles, his remarkable knowledge of the Scriptures, and his high attainments in scholarship drew to him men of noble character. When the Bible Union was formed in 1850, he was selected as one of the corps of revisers, the Gospel of Mark being assigned to him.

MECHANICAL ENGINEERING, THE PROGRESS OF. The improvements which have taken place in the mechanical arts within a few years are not easily appreciated in their full effect and bearings, although the United States have probably contributed more to the advancement in this direction than any other nation. In the annual meeting of the American Society of Mechanical Engineers, at New York, in November, the president, Robert H. Thurston, in his address reviewed some of

the main results of recent progress in mechanical engineering. The improvements in the materials used in construction and mechanical applications form one of the features of this progress which are most likely to escape their proper estimation. The principal changes in the use of materials are the substitution of iron or steel for wood, which has been going on for a long time, and the progressive displacement of iron by steel, which is a more recent development. The expensive and perishable material wood and the weak and brittle minerals are everywhere giving place to iron and steel, while iron is slowly but steadily and inevitably being displaced by steel. Cast-iron in small parts is less and less used as steel castings become more and more reliable, and especially as the art of making drop-forgings of larger size and in more intricate forms is perfected. Sheet-steel, very low in carbon and other hardening elements, is becoming, year by year, more generally adopted in boiler-making, not because of its greater strength, for the stronger grades are always rejected by the experienced boiler-maker, but because of the greater uniformity, ease of working, freedom from cinder, and the durability of those grades which are well suited to such use. A tenacity of less than 65,000 pounds per square inch and great ductility are demanded for this work. In rods and bars, and for sheets to be used where mechanical forces only are present, steel is produced which, with a tenacity of 80,000 pounds per square inch, stretches 25 per cent before breaking. A grade is sometimes obtained very low in carbon, but high in manganese, which has 10 per cent higher tenacity and equal ductility; and the progress seems to be in the direction of a manganese steel as the metal for use in general construction.

In alloys the important service has been rendered by R. H. Thurston of discovering an alloy of copper, zinc, and tin of maximum possible strength, and of pointing out approximately its composition. Other investigators have independently hit upon alloys closely related to this "maximum metal," and possessing properties of hardly less value. It is now known that by carefully proportioning the constituents, by properly fluxing the alloy, and by special mechanical treatment, brasses and bronzes may be obtained having strengths undreamed of by earlier engineers. Tenacities of from 75,000 to over 100,000 pounds per square inch have already been attained.

The introduction of special alloys having extraordinary strength and uniformity of composition, as the phosphor bronzes, manganese bronzes, and sterro-metal, indicate that workers in metal are beginning to enter upon the path long since opened to them by scientific research.

Dr. Fleitman's discovery of a method of making nickel malleable and capable of welding, and his similar improvement of commercial cobalt by the use of magnesium, is in itself

important, and promises to lead the way to further progress.

The effect of variation of temperature in the annealing of iron and steel, and in the hardening and tempering of steel, has long been known. That annealed and unannealed wire differ widely in tenacity and in ductility, that very "mild" steel and good iron are softened by the very process which gives hardness to steel, are familiar facts, and it has been known that there exists a critical temperature, probably definite and fixed for each grade, at which the hardening of steel occurs. Passing this point in cooling the metal takes on its temper, but variations of temperature on either side that point produce no observable effect on its condition, however rapidly they may take place. This critical temperature has now been identified in certain cases, and may prove to be nearly the same for all steels.

The process of cold-rolling has long been known as a method of enormously increasing the strength and elasticity of iron. It is now found that it is applicable to the soft steels; and it seems probable that its full effects may be obtained at any temperature below that critical point which defines the limit of molecular stability in steel. Lauth's process has been applied with equal success to certain alloys of copper and tin, by Sears, in the United States, and later by Rosetti, in Italy, and very extensively and successfully by Uchatius, in Austria. Tobin has cold-rolled bronzes approaching the "maximum" alloy in composition, and has attained tenacities exceeding 100,000 pounds per inch.

A radical distinction has been detected in the behavior of metals under stress, which leads to their division into the iron class and the tin class. The difference is shown in the variation of the normal line of elastic limits by intermitted stress. Engineers are beginning to perceive that that exaltation of the normal elastic limit which is observable in the former class is a valuable quality, the existence of which may justify the use of smaller factors of safety than have hitherto been thought allowable; and this leads to less expense in stationary structures, and to the elimination, to some extent, of stresses due to the inertia of moving parts in machinery. The opinion of many engineers, that moderate static loads may be sustained indefinitely by iron and steel, are also to this extent sustained. The same conclusions lead to the observance of more than usual caution in the use of metals of the tin class, including most of the brasses and bronzes, and to the use of higher factors of safety than are demanded in constructions of iron and steel.

Preliminary straining to secure an elevated initial elastic limit with relief of internal stress is likely to be of service in the applications of iron and steel, as by cold-rolling, by "frigo-tension" and "thermo-tension," and by wire-drawing, while it proves to be probably less effective with other metals.

The experiments made for the Prussian Government by Wöhler and Spangenberg during a period of fifteen years, and concluded eighty years ago, are just becoming known to practicing engineers; and Wöhler's law, and Launhardt's and Weyrauch's analyses of results, are found valuable checks upon usual methods of proportioning iron parts of structures. Not simply the load to be applied, but the frequency and the method of its application, and the condition of the structure as determined by earlier strains, must be considered in settling upon its dimensions, and upon the magnitude of the factor of safety. Nevertheless, these quantities are well covered by the factors of safety that have become generally accepted.

Perhaps the most important advance made in the use of materials in engineering has been the general introduction of systematic inspection and careful testing of materials. Such inspection and test is now demanded by every well-drawn specification, and is carried out usually by trained and skillful inspectors. Well-managed establishments have organized departments devoted to the examination and test of materials.

A method of inspection which will safely determine the value of each piece to be put into a structure or machine is becoming adopted; and soon every part of each bridge or machine upon the strength of which depends safety of life and property will have to be proved by actual test before use. The great testing-machine at Watertown Arsenal, set up by the defunct board appointed in 1875 to test iron, steel, and other metals, is at the service of the public.

The consumption of iron and steel is the truest measure of the magnitude and value of the work of mechanical engineering in the United States. The growth of the iron manufactures of the United States has all occurred since A. D. 1700, when there was not a blast-furnace in this country, and principally since the year 1794, when the first steam-engine was erected in America, eighteen years after James Watt made his famous improvements. To-day there are over 1,000 iron and steel works in the United States, employing \$230,000,000 in capital as against \$122,000,000 in 1870-'71, producing 7,250,000 tons of iron and steel, just double the production of 1870, and employing nearly 150,000 men. The value of all products is not far from \$300,000,000, and wages amount annually to about \$55,000,000. In ten years Massachusetts has increased her product 65 per cent, West Virginia 104 per cent, Alabama 800 per cent nearly, Georgia 125, and Tennessee 125 per cent. Pennsylvania holds her place at the head of the list, producing 3,500,000 tons per annum; Ohio makes 1,000,000 tons, New York 600,000, Illinois 400,000, New Jersey 250,000, and other States smaller amounts.

Since 1870 the weight of pig-metal produced has increased from 2,000,000 to 3,750,000 tons

per annum, or 84 per cent; rolling-mills make 2,500,000 tons of rolled iron, an increase of two thirds; the Bessemer steel manufacture has grown from less than 20,000 tons in 1870 to 900,000 tons in 1881; open-hearth steel is now reported at about 95,000 tons, an industry unknown in this country in 1870. Of crucible steel 70,000 tons are made per annum, a gain of 150 per cent in the decade, and its applications are extending day by day.

But Great Britain still remains at the head of iron-making countries, turning out 8,000,000 tons of pig-iron during the year, an increase of one third since 1870, and the increase still continues. The weight of Bessemer rails made has reached above 700,000 tons, and of Siemens-Martin steel 250,000 tons per annum. Germany, France, and other countries of the world exhibit similar gains. Even Italy, where the useful arts have been most neglected, has produced about 300,000 tons of iron-ore, of which a small amount is there worked into finished iron. The artistic sense of her people is seen in the architectural work her blacksmiths make in hammered iron.

The introduction into open-hearth steel-making of the Pernot furnace with its revolving saucer-shaped hearth, and of the Ponsard furnace with its modernization of the ancient process, are the latest steps in the improvement of steel-making apparatus; and the dephosphorizing process of Thomas and Gilchrist, by permitting the use of hitherto condemned ores, will prove a grand step in the reduction of cost of Bessemer steel, which must hasten greatly that inevitable change which will, ere long, replace malleable iron by steel in all of its uses. Good mild steel can at last be made cheaper than good iron. This is the grandest of all the industrial revolutions that have affected the iron-trades; and it will be of hardly inferior importance to the world than was the introduction of puddled iron a century ago.

Steel is employed in every department of iron-work; and that most remarkable of all its many grades, Whitworth's compressed metal, is now at last coming into commercial importance, of which are being made shafts for the largest steamships, and ordnance that has no equal in strength and endurance. Any size desired can now be made in cast-steel, and 100-ton ingots, shaped under 80-ton hammers, are turned out in one European establishment.

The progress of mechanical art is well illustrated by the changes which have taken place in textile manufactures. According to Atkinson, a century ago one person in each family was compelled to work, day in and day out, nearly the whole year, to furnish homespun and dress goods for the rest; to-day, such has been the progress in the introduction of mechanism and automata, that one day's work in the year will, on the average, be sufficient to enable each worker to supply himself with all needed cotton and woolen fabrics. Speeds of cotton spindles have risen, during the last two

decades, from 5,000 to 7,500 revolutions per minute. Looms then making 120 picks per minute make now as high as 160, and one hand takes charge of from 25 to 50 per cent more work. The "slasher" dresser does ten times the work of the old machine; supplying 400 looms in place of 40, and demanding the attendance of only one man and a boy, instead of two men and ten girls. Pickers handle a ton of cotton per day in place of half or five eighths of a ton. The cheaply-made turbine driving these mills has completely displaced the old costly vertical wheel, doing the work with less water and greater steadiness. Its efficiency has risen from 70 or 75 to 80 and 85, and sometimes 90 per cent. A generation ago factories were in operation twelve or thirteen hours; to-day a man works ten hours. Then three yards an hour was the product for a single operative; to-day ten yards per worker are produced. In twenty years the annual product in cotton-mills has risen from $2\frac{1}{2}$ tons to $3\frac{1}{2}$ tons per annum per mill-hand; wages have increased 20 per cent, and the buying power of the dollar has risen in much more than equal proportion, thus adding 50 per cent to the comforts and luxuries of working people, permitting an increased number of happy marriages and comfortable homes, setting free the child-slaves of the mills, and turning them into the schools. Where one hand then drove forty spindles, he now manages sixty; and every seven spindles, of the more than ten millions in operation, work up a bale of cotton each year and turn out a hundred dollars' worth of product. This product is supplied to the most indigent at a small advance on the one and a half cent for labor, and an equal sum for raw cotton, which are expended in the manufacture of the cheapest grades. A still more striking fact is the distribution of American cotton goods to distant countries. A single mill-operative at Fall River, Lowell, or Providence makes each year cotton cloth enough to supply 1,500 of the people who pay by sending their tea.

In woollen manufactures all machinery has been speeded up, product increased, labor diminished, costs lessened, and machinery given greater automatism and higher efficiency both in making ordinary goods and in adaptation to finer grades. The manufacture has had a healthy growth, and the product is daily competing more successfully with the best of imported goods.

Power-loom and automatic machinery have been introduced more slowly in the silk-trade than in others; yet progress has been made. New and improved apparatus is steadily displacing older forms; power machinery is taking the place of hand-worked machines, with more rapidity in mills working the coarser grades, and more slowly where the finest goods are produced. The strength, durability, and finish of all kinds of silks are constantly becoming more and more nearly equal to the

best imported. Some makes of American silk wear better than any of foreign make yet seen in the American market, and several grades have a finish which compares favorably with the very best of European silks. In variety and in quantity of goods produced a steady gain is to be noted. The ingenuity of the American workman, aided by talent and experience coming from the older silk-making provinces of Europe, seem likely to give to this manufacture a position of which its promoters may well be proud. Mr. Wyckoff, Secretary of the Silk-makers' Association, reports, June 30th, a production in the United States of nearly \$35,000,000 in finished goods, by about 400 factories, employing a capital of \$19,000,000, and over 30,000 operatives, whose wages amount to about \$9,000,000 per annum. A half-million spindles are in operation, running often 10,000 revolutions per minute, instead of 5,000 as a few years ago, and over 5,000 power and 4,000 hand looms. Spinning-frames occupy $\frac{1}{10}$ the space, and cost $\frac{1}{10}$ as much per spindle as in the earlier days of the trade, and the cost of work has now become so small that \$3 per pound spent in wages make silk costing \$5 per pound into finished goods averaging \$11.50.

In machine-work generally the distinctively American idea of manufacturing, as opposed to the old methods, of making parts of mechanism in large numbers, is steadily progressing, thanks to the ingenuity of mechanics, like Pratt, Whitney, and others, in devising tools specially designed for the production of definitely limited kinds of work.

The same American genius of invention which produced the Whitney cotton-gin, the Blanchard lathe, the screw-machinery, and the more wonderful card-setting machine, has lately worked out Sellers's automatic gear-cutter, the automatic turret-lathe, and a thousand and one machine-tools hardly less remarkable in construction and efficiency.

In the railroad system of the country changes are everywhere in progress. To-day there are a hundred thousand miles of track laid down in the United States, about one half of the constructed railroads of the world. Trains here and in Great Britain make 50 miles an hour on schedule time, taking water from the track, and receiving and delivering mails, without stop. A speed of 100 miles has been many times attained. Locomotives are frequently built weighing 50 tons; 70 tons has been reached, and every builder of engines is ready to guarantee the performance of an engine to draw 2,000 tons 20 miles an hour on a level track. In coal consumption some saving has been made of late years. Three pounds of coal per hour and per horse-power is the usual duty, and a consumption of 2.6 pounds of coal and of $22\frac{1}{2}$ pounds of steam has been reported from recent locomotive tests. The trapping of cinder and the reduction of intensity of combustion by extending grate area are late im-

provements. The time will come when the nuisance of flying dust and cinder will be unknown. The greatest of all modern inventions in this department, the Westinghouse continuous brake and the Miller platform and coupler, have decreased the risks of journeying by rail to a merely infinitesimal quantity. A train, when at full speed, can be stopped within its own length. Steel rails have driven out iron, and this superior metal is slowly and surely taking the place of its defective rival in boiler and running parts. While Bessemer steel is used for rails, open-hearth steel is coming to be as exclusively used for all parts of the locomotive.

The efficiency of the late styles of stationary engines is illustrated by figures like these: Corliss obtains a duty, as recorded at a 12-hour trial of his last Providence pumping-engine, of 113,878,580, without reduction or allowances, and the average of several days' trial is 112,000,000. Leavitt shows a duty, for months together, of about 105,000,000, and obtains a horse-power with an expenditure of $16\frac{1}{2}$ pounds of feed-water per hour at Lynn and 16.23 at Lawrence. His Calumet engine, with wet steam and but 200 feet piston speed, demands but 18 pounds, and the Hecla hoisting-engine is credited with 16 pounds.*

This figure—sixteen pounds of steam per hour and per horse-power—may be put on record as the very best economy attained by the best engineers at the end of the decade 1870-'80. It is just double the weight which would be required in a perfect engine working steam of the same pressure at maximum efficiency. This leaves still a fair margin for further advance in the construction of the engine. The steam-boiler is at a stand-still; there is but little margin for gain in economy, but a large gain in weight of steam supplied per pound of boiler may be expected when the tardily recognized advantage of forced circulation is secured.

Air and gas engines are competing with stationary steam-engines, but in no other field. The compressed-air engine, the petroleum-engine, and the gas-engine are all just now coming forward. The gas-engine sometimes consumes as little as eighteen cubic feet of gas per hour per horse-power. The solar motor proposed by Ericsson has, as yet, made no progress beyond the plans and experiments of the inventor.

Little has been added regarding the theory of heat-engines to the labors of Rankine and Clausius, except in the minor branches of thermodynamics. In this field the practical work of the engineer is to-day that of seeking, with the aid of the physicist, to determine the facts and the laws governing the exchange of heat

between the working fluid and its inclosing walls. Commercial efficiency is often made a maximum with very much smaller engines, and lower rates of expansion, than are found to give maximum economy of fuel. Rankine was the first engineer to base calculations of economy on the aggregate of commercial considerations instead of regarding only the single aspect of economy in fuel. Thurston, as well as other recent investigators, has applied this method of calculating the efficiency of steam-engines, on which he makes the following observations:

We are not, it is evident, to conclude, from the results of the application of the Rankine method of determining size of engine and maximum commercial efficiency, that we are always to lose so large a proportion of the gain obtainable by further expansion of steam. We conclude, rather, that the engineer must direct his attention to improvements designed to reduce these counteracting wastes. He must find methods of rendering the machine, including boiler, automatic, and thus of reducing cost of attendance; he must find ways of reducing first cost, as by increasing speed and making smaller engines do the work, as by finding ways of building cheaply, yet doing good work, and of making lubrication less costly, or of doing away with it altogether. Automatic firing or stoking, automatic feeds, and automatic cleaning apparatus are already in use, as well as automatic regulation of the engine, of steam-pressure, of point of cut-off, and of chimney-draught. All these improvements, when once made successful and thoroughly reliable, will come in effectively to aid the engineer in this direction, as well as the more direct advances in progress in the direction of reducing back pressure and of checking cylinder condensation, of increasing steam-pressure, superheating, and obtaining by the use of all known methods of high ratios of expansion at maximum efficiency. The engineer and the physicist working hand in hand in the future as they have in the past—or perhaps the engineer-physicist—will sooner or later, following the paths pointed out by Smeaton and Perkins, and in our time by Corliss, Porter, and Leavitt, greatly reduce the now often broad margin between theoretical efficiency and commercial economy. When the engineer has once acquired the habit of gauging the value of an engine by the magnitude of its ratio of expansion at maximum efficiency, all this latter class of improvements will advance with increased rapidity, and when henceforth the magnitude of the ratio of expansion at maximum commercial economy is a gauge of his success in making steam-power useful, the first class of improvements and of inventions will similarly advance, while we shall gladly approximate to mechanical perfection, and this progress will occur at a rate which will be measured by the approach of the two ratios of expansion to the same maximum, finally both becoming nearly coincident with the ratio of maximum efficiency of fluid for each given case.

The compound engine has become the standard type of steam-engine in use on shipboard as well as for stationary pumping-engines. Occasional intimations are heard that a counter-revolution and return to the single cylinder type of engine may be expected, but that change is not observable. The direction and extent of recent advances in marine architecture are readily noted. The proportions of length of ship to breadth remain, as during several years past, about ten to one or eleven to one—about fifty per cent greater than has been considered by some of the best engineers as that giving highest

* This is the more remarkable from the fact that the jackets were disconnected, indicating, apparently, that better work may be done with an underheated than with an overheated cylinder jacket. The performance of the west-side pumping engines at Chicago, giving a duty of nearly 100,000,000 with lower heads only jacketed, is similarly significant.

efficiency. The Great Eastern, 680 feet long, of 83 feet beam, and measuring 25,000 tons displacement, still remains the largest ship yet built; but steamers are under construction for transatlantic lines 600 feet long, of over 50 feet beam, and fitted with engines of 10,000 indicated horse-power. A speed of twenty miles an hour in good weather throughout the voyage, making the distance from land to land in less than a week, may be expected soon to become usual. Double hulls and transverse bulk-heads will make these great vessels safe even against the shock of collision with an iceberg.

Steam-pressure has gradually and steadily risen since the time of Watt, when seven pounds—half an atmosphere—was usual. To-day six atmospheres (75 pounds per square inch) is as usual, and seven atmospheres (90 pounds) is often adopted. Such pressures have compelled the general introduction of the simplest form of steam-boiler—the cylindrical tubular boiler, with large flues beneath the tubes, in which the furnaces are formed. Strength of flues is obtained by the use of heavy plates, sometimes flanged at the girth-seams. "Mild" steel is here slowly displacing iron.

In ordinary practice increase of steam-pressure with correspondingly increased expansion gives, roughly stated, a decreased steam consumption, about in the ratio of the square root of the pressure. This seems true in recent marine engineering; during the past ten years steam-pressure has risen from four and a half to six atmospheres (50 to 75 pounds by gauge), and the consumption of fuel per hour and per horse-power has decreased from 2 to 1·8 pounds. Incidentally the area of heating surface has decreased from $4\frac{1}{2}$ to 4 square feet per indicated horse-power, that is to say remaining, as formerly, nearly 2 square feet per pound of coal burned per horse-power per hour; where, as in some cases, pressures of 100 and 125 pounds are adopted (seven to ten atmospheres, nearly), somewhat further gain may be expected.

Increased pressure has been accompanied by increased speed of piston—from 300 to 500 feet per minute—and both causes have combined to reduce greatly the size and weight of engines. Formerly 500 pounds per indicated horse-power was a common figure; to-day one half that weight is often noted, and in special cases in which, as in torpedo-boats, economy is not important, one fifth and even one eighth those weights have been reached.

Surface condensation is almost exclusively adopted, but the area of cooling surface is becoming less and less, and at the pressure soon likely to become general, the production of a vacuum may possibly cease to be desirable, as it is already known to be with unjacketed cylinders; and the non-condensing engine may yet displace the condensing engine at sea as it has on land, and on the Western rivers where this comparison was earlier made, and where the

evil effects of cylinder condensation were earlier perceived. A still for condensing exhaust and waste steam into feed-water has already been used, and it must remain in use in all salt-water navigation.

Among the most interesting events of the years 1880-'81 have been the trials of the steam-yachts *Anthracite* and *Leila*. The first is a small vessel, 86 feet long, 16 feet beam, and 9 feet draught, fitted with a three-cylinder compound engine, and carrying 300 pounds steam (twenty atmospheres, nearly) and upward. Trials in London show these engines to have required but 1·7 pounds of coal and 17·8 pounds of steam per hour and per horse-power. Cylinder condensation amounted to 30 per cent in the first cylinder, and of this nearly three fourths was re-evaporated before discharge from the third cylinder. The same engines tested in this country required 21·6 pounds of steam per hour and per horse-power, the cylinder condensation becoming over 50 per cent, of which four fifths was re-evaporated before reaching the condenser, the difference being probably due to a variation in the efficiency of the steam-jackets and in speed of engines. This little yacht is the smallest that ever crossed the Atlantic. The trial of the *Leila*, under the orders of the United States Navy Department, was even more instructive than that of the *Anthracite*. The *Leila* is a Herreshoff yacht, 100 feet long, 12 feet beam, and measuring 37 tons. With a "coil" boiler, steam at 120 pounds at the steam-chest (nine atmospheres), and driving the boat fifteen knots an hour (seventeen miles), the engines developed 150 horse-power, using but 16·4 pounds of steam per hour per horse-power. The cylinder condensation amounted to but 10 per cent.

An important deduction from the results of the trial of the *Anthracite* and the *Leila* is, that efficiency has little relation to size of engine when protection against cylinder condensation is secured. Some of the best work has been done, where non-condensing engines have been compared, by small portable engines. Steam-engines of five thousand horse-power are equalled in economy by engines of one fiftieth that power. A large difference in magnitude seems more than compensated by a moderate difference in steam-pressure. The highest pressure may prove least economical when the engineer neglects to provide against loss by cylinder condensation. It is found more and more necessary to discover some means of making the interior surfaces of steam cylinders of non-conducting material. That accomplished, the cost of power, in quantity of steam used, will be reduced from ten to fifty and more per cent, according to the kind of engine considered. Until that is done, superheating, steam-jacketing, and high speeds of piston must be relied upon to give high efficiency; but only perfectly adiabatic expansion can give maximum economy of steam. The

error of assuming that the condensation of steam due to transmutation of heat into work produces the principal part of the water observed in the cylinders of engines working dry steam, is becoming recognized. Later writers hold that the greater part of the water which collects in unjacketed cylinders is not produced by liquefaction of steam during its expansion, but that this latter amount is insignificant, and that this water comes of cylinder condensation, sometimes with considerable leakage, and often amounts to a half or more of all the fluid supplied by the boiler. This defect, existing in all heat-engines, will probably soon be remedied to such an extent as no longer to constitute the great obstacle to further advance. The trials of steam-engines, now often conducted by the Forey & Donkin method of measuring the heat rejected, afford a reliable means of measuring actual efficiencies. Recently, Eckart has applied the chronoscope of Hipp to the determination of the exact velocities of piston in mid-stroke. There is a prospect that the precise action of steam in the engine and the causes of variation in efficiency will be better understood. The progress which has been made in naval engineering during a generation illustrates the advances observed in nearly every other department. Naval works, whether in the civil or the military marine, have become almost purely the work of the mechanical engineer. The ship-builder constructs his ships of iron and steel; their lines are laid down by the laws of engineering science; their parts are formed in the machine-shop and put together by the same methods that are adopted in constructing their boilers. They are driven by steam-engines; and even their loading and the discharge of their cargo have become matters of engineering. The old-fashioned mariner is rapidly disappearing, and the engineer is likely to become the responsible officer on the voyage, as during construction. The daily advance noticeable in naval construction is a progress leading directly and rapidly toward bringing all naval warfare within the province of mechanical engineering. A generation ago, the French line-of-battle ship *Napoleon*, with her 100 guns and 600 horse-power engines, represented the most formidable of naval vessels. A little later, in 1856, the American *Wabash* class of screw-frigates, with fewer but much heavier guns, was thought to be the coming type. Then the modern ironclad came to revolutionize all naval warfare. The engineers Robert L. Stevens and John Ericsson, and the naval architect Edwin J. Reed, led the way to the construction of the war-ship of to-day, a craft carrying ordnance weighing from 25 to 160 tons, at speeds varying from twelve to sixteen knots; plated with from fourteen to thirty inches of armor, and yet penetrable by their own guns.

Navies are coming to be divided into three classes of ships, and an independent service of torpedo-vessels: 1. A class of vessels for service in time of peace, of moderate size and

speed, carrying a few heavy guns, unarmored and with great sail-power; 2. A class of unarmored ships of very high speed under steam and carrying a light battery, such ships as might be best calculated to destroy the commerce of an enemy; and, 3. A class for heavy fighting, carrying the heaviest of guns and the most impenetrable of armor, with as high steam-power as possible, and rendered, by division into compartments, as nearly unsinkable as possible. Owing to the introduction of the stationary, the floating, and the automatic classes of torpedoes and of torpedo-vessels, the attack by any navy of stationary defenses is now quite a thing of the past; and torpedo-ships of very high speed may yet drive all heavily-armored vessels from the ocean. The production of such craft as the *Polyphemus*, making seventeen knots, and Ericsson's *Destroyer*, with its great submarine gun, and the self-propelling torpedo, guided from the shore, indicate that the day of cessation of all naval warfare is not far away.

In gunnery, stronger and safer ordnance metal, breech-loading in place of muzzle-loading, increased velocity of projectile, a flatter trajectory with less lateral drift, and with enormously increased range, are the changes now occurring. Whitworth's compressed steel, Krupp's breech mechanism and skillful design and construction, have given guns capable of driving shot at velocities of over 1,200 feet per second with small-arms, and nearly 2,000 feet with heavy ordnance. Whitworth, with a comparatively small piece, has attained a range of nearly ten miles. The machine-guns of Gardner, as built by Pratt and Whitney, and the Gatling and others, as constructed by the Colt Company and the Ames Manufacturing Company, firing a thousand shots a minute, have rendered the old methods of warfare, in which large masses of troops were deployed in the open, entirely obsolete, while the accuracy of sharp-shooting at ranges of 1,000 yards or more make the use of any unprotected ordnance at short ranges extremely difficult. Hollow cast guns, as made by Rodman, although the best cast-iron ordnance ever known, are now of the past; and even the Armstrong, the Woolwich, and other guns built up in the forge, fail, when made of eighty and one hundred tons weight, and must give place to solid steel guns. Improved methods of making explosives and better adjustment to the work by variation of composition, and especially size and density of grain, has enabled artillerists to keep pressures much below twenty-five tons per square inch, while greatly increasing the energy developed per pound burned and correspondingly increasing the effectiveness of ordnance. The theoretical energy of good powder is about 250,000 or 300,000 foot-pounds per pound. In experiments, an actual result equal to two thirds is now obtained. There is still much to be done in perfecting ordnance, especially in its construction, and as yet ordnance officers

are completely at sea in respect to systems of construction of large guns. Treadwell and Woodbridge have pointed out one direction of progress by the application of the strongest known form of metal, hard drawn steel wire, in building up the barrel, and Whitworth has shown what can be accomplished with steel in masses. The gun is already a heat-engine of high efficiency, but thermodynamic investigations show that this gas-engine may be made still more efficient. A gun in which the charge expands twenty-five times should give to the shot an energy of 300,000 foot-pounds per pound of good ordinary powder, and such a standard must sooner or later be closely approximated. As the heat is generated and expanded in a very small fraction of a second, the gas expands adiabatically, and the loss of efficiency comes from incomplete expansion. The tendency of improvement is to have guns lengthened greatly, and carefully proportioned to their work. Recoil is considered to be in many cases often an avoidable evil with breech-loading guns. It is expected that with the improvements in progress guns can be held fast against recoil, and thus the defect in efficiency will be entirely avoided. Increased accuracy and power with flattened trajectory and reduced drift will come with these improvements, and the last will give much greater convenience and safety in working, and will aid still more in the effort to unite guns and supporting structure as closely and firmly as possible.

That feature of recent progress in engineering which is awakening most interest in the minds of the public as well as of the profession is the introduction of machine-made electricity, and of the electric light. The prospect of the use of the electro-dynamic machine as a distributor of power is a more momentous consideration than its use as a generator of light. The mean of several series of tests of a powerful dynamo-electric machine from Menlo Park gave, as a result, an efficiency of between 90 and 95 per cent.

This important advance in that field in which the mechanical engineer and the electrician have joined hands, will lead to the probable early success of the electrical railway, a promising scheme of simplifying the problem of transportation on elevated railways; and it is not unlikely that the rising generation may see the introduction of this method of distributing power from a central source in the great cities, and even from Niagara, with its 3,000,000 horse-power, to distant cities. The competition of this method of distributing light, heat, and power, with the already practical plan of steam distribution introduced by Holly, of Lockport, and now coming into use in New York city under the direction of Emery, will be watched with unusual interest.

The improvements in the control and application of electric energy render the prospects of aerial navigation far less problematical. In

the science of *aéronautics* progress, although slow, is still to be observed year by year. During the Franco-German War the French naval engineer, M. Dupuy de Lôme, succeeded in giving to the balloon a slow motion by means of a screw, and in directing its course by a rudder. His balloon was spindle- or cigar-shaped, and contained 12,000 cubic feet of gas. It could carry fourteen men, and the screw was worked by four or eight men. But the only hope of aerial navigation lies in the direction of flying-machines, lifted by their own power, not buoyed up by gas. Men of science, like Pettigrew, Marey, and De Lucy, have studied the motions of the wings of birds and insects, have learned the laws of fluid resistance, and have paved the way to a real advance. Weight is probably not objectionable in aerial navigation, but volume constitutes the impediment. Comparing the lady-bird, the stag-beetle, the pigeon, the stork, the sparrow, etc., De Lucy found the area of wing per unit of weight carried to be nearly as the cube root of their weights. A man of ordinary weight should, therefore, be able to fly with wings having an area of only about forty square feet. De Villeneuve states that a bat having the weight of a man would need wings only ten feet long. Marey has made birds in harness record graphically the motions of their own wings; and Haughton and Marey and others have determined the working power of muscles in proportion to weight and size, and the method of movement of muscles and wing. Henson, Stringfellow, May, and others have made self-impelling model flying-machines, some of which have actually lifted themselves in the air, and several of which have flown with great speed when once lifted clear of the ground. The most remarkable achievement is that of Henson in making a steam-engine, fragile to be sure, but still a working machine, producing a third of a horse-power, and weighing less than fifteen pounds. Still, there is as yet but little on which to base an expectation of finding a satisfactory yet powerful motor.

The introduction of the power-press and the gradual incorporation into one automatic machine of the web-perfecting press of Sir Rowland Hill and of Jephtha Wilkinson's, of Worms's cylindrical stereotype plates, of Richard Hoe's type-cylinder and double-acting fly-frame; of Applegarth's enlarged impression-cylinder, and of minor improvements, have led to the creation of the modern printing-press. To-day a daily paper can be printed at the rate of 30,000 impressions an hour, each paper printed on both sides, cut from the great roll in which it came to the press, pasted in shape and folded exactly to size, and then counted off by the machine as delivered to the carrier. The work of the compositor is likely to be greatly accelerated by the type-setting machine, which has attained extraordinary perfection. Paige's machine receives a column of "dead matter" from the press, distributes it automatically,

sets it up anew at the rate of 3,500 ems per hour, including setting, justifying, and distributing, which is five times the work of the unaided hand. Its type lasts longer than when set by hand, and every defective or turned type is thrown out by this mechanical automaton.

The cause of public technical education finds in the President of the Society of Mechanical Engineers an earnest advocate, as is seen from the following concluding remarks in Mr. Thurston's annual address:

But the individual must be taught, not simply permitted to learn as best he can. Education, directed effectively with the object of giving, in least time and at least cost, a preparation for all the duties coming to the learner, whether in daily toil or in social life, is called for; trade-schools must be incorporated into the common-school system, and technical and professional colleges and great universities of science and art must be placed beside the older academies of learning. And this need is most felt by our own colleagues, and by the people employed by them. He who would accomplish most in the profession of the mechanical engineer, or in the trades, must best combine scientific attainments—and especially experimental knowledge—with mechanical taste and ability, and with a good judgment ripened by large experience. He must be carefully, thoroughly, and skillfully taught the principles of his art in the technical school, and the practice of his profession in office or workshop.

We have been late in seeing this necessity, and must suffer for our dullness as a nation; but we are beginning to open our eyes and to move in this most vital of all the duties of citizenship. One and two and three centuries ago, wise men like Pascal and Worcester and Vaucanson saw this greatest, highest duty of governments and citizenship, but it is only recently that we, as a people, have come to see its importance.

But now, the magnificent trade and technical school system of Germany, the older if less complete educational system of France, the tardily begun but splendid later work of Great Britain, and the grand beginnings made in the United States, form a glorious commencement of a revolution that shall peacefully effect such changes during the next generation as, probably, no one can realize until after their actual accomplishment.

With trade-schools in every town, technical schools in every city, colleges of science and the arts in every State, and with a great technical university as a center for the whole system, we shall yet see all combined in a social organization that shall insure to every one absolute freedom to learn and to labor in any department of industry, with absolute certainty of a fitting recompense for all the zeal, intelligence, and good work that the worker, whether man or woman, may offer the world.

MEDICAL SCIENCE AND PRACTICE:
ITS PROGRESS. The meeting of the International Medical Congress, held in London during the first week in August, 1881, afforded a fitting occasion for the review of the progress that has been made in medical science and practice during the past generation. Several of the speakers at the Congress, accordingly, referred to the present condition and the prospects of the science, and represented them as very hopeful. The president of the body, Sir James Paget, said that "it will not be easy to match the recent past. The advance in medical knowledge within one's memory is amaz-

ing, whether reckoned in the wonders of the science not yet applied, or in practical results, in the general lengthening of life, or, which is still better, in the prevention and decrease of pain and misery, and in the increase of working power." Professor Virchow said that "we have reached the point which denotes the boundary between ancient and modern medicine"; and "we may now say with satisfaction, on looking back at a period which we have ourselves lived through, and which comprises little more than a generation, that there never before was a time when an equally great zeal in investigation, or anything approaching to a similar advance in knowledge and ability, has shown itself among physicians." Professor Huxley, remarking upon the disappearance of older definitions of life, observed that the connection of medicine with the biological sciences appeared to be more clearly defined. And Professor Volkmann, speaking of the changes which surgery had undergone within the past ten years, said: "Great and unparalleled in the history of medical science have been those changes. Problems, thousands of years old, have been solved, or are, at any rate, approaching a sure solution; the desires of our fathers have been fulfilled beyond their hope and expectation."

Medicine has been very slow in defining its position among the sciences, and can hardly yet be declared to answer a rigid definition of a science. It is, nevertheless, scientific both in spirit and doctrine; and if the existence of a real science of medicine can not yet be maintained, medicine is certainly rooted and grounded in science. It has become recognized as a part of the science of biology, and may be, in some sense, described as the applied science of biological doctrine. "It is so difficult," says Professor Huxley, "to think of medicine otherwise than as something which is necessarily connected with curative treatment, that we are apt to forget that there must be, and is, such a thing as a pure science of medicine—a 'pathology' which has no more subservience to practical ends than has zoölogy or botany. The logical connection between this purely scientific doctrine of disease, or pathology, and ordinary biology, is easily traced. Living matter is characterized by its innate tendency to exhibit a definite series of the morphological and physiological phenomena which constitute organization and life. Given a certain range of conditions, and the phenomena remain the same, within narrow limits, for each kind of living thing. They furnish the normal and typical characters of the species; and, as such, they are the subject-matter of ordinary biology. Outside the range of these conditions, the normal course of the cycle of vital phenomena is disturbed; abnormal structure makes its appearance, or the proper character and mutual adjustment of the functions cease to be preserved. The extent and importance of these deviations from the typical life may vary in-

definitely. They may have no noticeable influence on the general economy, or they may favor it. On the other hand, they may be of such a nature as to impede the activities of the organism, or even involve its destruction." In the first case, these perturbations are styled "variations"; in the second case, they are called lesions, states of poisoning, or diseases, and, as morbid states, lie within the province of pathology. No sharp line of demarkation can be drawn between the two classes of phenomena, and all that can be said is, that whatever change of structure or function is hurtful belongs to pathology. Hence, pathology is a branch of biology—the morphology, the physiology, the distribution, the etiology of abnormal life.

"The search," says Professor Huxley, "for the explanation of diseased states in modified cell-life; the discovery of the part played by parasitic organisms in the etiology of disease; the elucidation of the action of medicaments by the methods and the data of experimental physiology—appear to me to be the greatest steps which have ever been made toward the establishment of medicine on a scientific basis." Medicine, however, has presented two aspects—the scientific and the empirical—the difference between which lies in the very nature of things. While there is so much that is unknown in the study of medicine, there must be empiricism in its practice. Knowing little or nothing of certain processes of disease, it is guided by broad results, and that is empiricism. Knowing, from previous investigation, something of certain other processes, it is guided by its knowledge of their causation, and that is scientific medicine. The possible area of empiricism can be more circumscribed only with the advance of biology; and, with the better means thus afforded to test and investigate its assertions, they will be the more quickly reduced to scientific expression. Medicine thus can claim an independent existence as a practical science—not, of course, independent of biology, but taking rank as one of its distinct and integral divisions. Intimately related to its sister-divisions, and freely giving to and borrowing from them, it yet lives and works in a sphere of its own.

Pathology, in the sense that it is the morphology of abnormal life, is pronounced by Professor Huxley the analogue of the theory of perturbations in astronomy; and from this point of view therapeutics resolves itself into the discovery of the means by which a system of forces competent to eliminate any given perturbations may be introduced into the economy. And, as pathology is based on normal physiology, so therapeutics rests upon pharmacology, which is, strictly speaking, a part of the great biological topic of the influence of conditions on the living organism. Most hopeful indications of the progress of medicine are derived from a comparison of the state of pharmacology at the present day with that which

existed forty years ago. If we consider, Professor Huxley says, the knowledge positively acquired, in this short time, of the *modus operandi* of urari, of atropia, of physostigmin, of veratria, of casca, of strychnia, of bromide of potassium, of phosphorus, "there can surely be no ground for doubting that, sooner or later, the pharmacologist will supply the physician with the means of affecting, in any desired sense, the functions of any physiological element of the body. It will, in short, become possible to introduce into the economy a molecular mechanism which, like a very cunningly contrived torpedo, shall find its way to some particular group of living elements, and cause an explosion among them, leaving the rest untouched."

The advancement of medicine within the last generation has been marked, first, in its development from within of its own art and science; secondly, in its adaptation and absorption of means and principles of other arts and sciences; and, thirdly, in the simple adoption and application of material from external sources, and may be considered under all of these heads. In the first branch of the subject absolute progress has been made in our time in pathology, or the knowledge of the nature of diseases, in the study of their signs and symptoms, or semeiology, and in their treatment, or therapeutics.

The most important step in pathology has been the adoption of Virchow's doctrine of cell-growth, to which the largest proportion of recent progress has been directly or indirectly owing. Great and important in itself, and in its influence on biology generally, it has little less than revolutionized pathological study. In its light pathological anatomy has been studied as affording the efficient explanation of morbid processes; the structure of the tissues and organs in which disease prevails has been exposed, and a distinct structural basis has been given to our knowledge, if not of the disease itself, of the morphological result of the disease, which has yielded a precision and definiteness such as no other conception could yield; new light has been thrown upon the clinical recognition of morbid processes; forms of disease which were semeiologically indistinguishable, but pathologically distinct, have been discriminated and individualized; specific varieties of the same type of disease have been recognized from their commencement, and distinguished throughout their course; constant phenomena previously remarked have been elucidated; large and important classes of morbid processes, before hardly recognized, have been demonstrated; the processes of every disease have been investigated, with general increase of knowledge; prognosis has been given certainty and definiteness, and it has been possible to make an exact interpretation of the morbid signs observed. A tendency has been manifested in late years to supplement the analytical method, which, useful and necessary as it is, had been carried to an extreme, and

had caused the direction of too great a degree of attention to details and single symptoms, with a synthetic or constructive method, under which a disposition has arisen to regard disease in a larger and more comprehensive manner; to view more prominently the relation of morbid tissues and functions to the organism generally; to emphasize less the variations than the constitutional form of the disease; and "to recognize, in some way or another, the indefinable 'life' which is hardly known to pathological anatomy." Under this synthetic spirit the study of the ancient doctrine of humoral pathology, which seeks for the causes of disease, or of its first effects, in the fluids of the body, has been revived. Recent progress in pathology has, therefore, been most largely due to microscopic study. Substantial and important aid has been given by organic chemistry, but that science has not probably fulfilled the expectations it excited some years ago, and seems hitherto to have occasioned some disappointment. Only the ultimate results of morbid processes can, as a rule, be recognized by chemical tests too far removed from the processes themselves to throw much light upon them, and their application to pathological conditions is so ambiguous that no safe deductions can be drawn from such tests. Pathology has also received little aid from therapeutics.

By the establishment of a common basis of elementary morbid lesions occurring in every part of the body, the same morbid processes are seen to take place in different structures of the body, with primarily the same effects, which are modified only by the function and character of the tissue of the part involved. The abnormal increase of connective tissue in the structure of any organ, for instance, ends in contraction, compression, and obliteration of the structural elements, with consequent loss of function. Inflammation occurring in any tissue leads to effusion, extravasation, and supuration. All the elementary processes of pathology may be seen in different tissues and organs, producing the same effects, only that the effects are manifested in a manner peculiar to each part; with the same fundamental lesion the disease is the same essentially, although wholly distinct in appearance. Since the great bulk of disease can be resolved into these fundamental processes, a scientific and durable foundation for pathology is established which is of the highest value and significance for philosophical medicine. Under this view, diseases of different organs, which, until their essential elements were demonstrated, appeared to have nothing in common, are now seen to be results of the same process. Thus, a great tendency may be observed at work toward the codification and unification of disease, and the resolution of complex forms into the simplest elements.

Pathology as a science has also made a great advance in the discovery of the microphytic origin of certain specific diseases. Several af-

fections of this class have been shown to be caused by the development of minute organisms within the system; and it is affirmed that septicæmia has been traced to *septic bacteria*, relapsing fever to the *spirilla*, ague to the *bacillus malariae*, leprosy to the *lepra bacilli*, tuberculosis to the *tubercle micrococcus*, splenic fever to the *bacillus anthracis*, and the condition termed "chyluria" is caused by a nematoid known as the *filaria*. The multiplication of such organisms in the blood, and their consequent aggregation in the spleen, supplies a satisfactory explanation of the salient phenomena of diseases of this class; and it is naturally inferred that other affections of a similar type have a like origin.

The more recent development of the microphytic or germ theory of disease is exemplified by the researches of Drs. Klebs and Tommasi Crudelli into the cause of the malarious properties of the Roman Campagna, which they have traced directly to an organism (the *bacillus malariae*) inhabiting the soil; and in the researches of Professor Klebs and Dr. Schüller, which have indicated a micrococcus spreading rapidly in the blood and tissues as the probable cause of tubercular and scrofulous diseases. M. A. Laveran has made a report upon certain forms of organisms which he has found in the blood of patients suffering from malarial diseases, while he has not noticed them in other persons, the remarkable susceptibility of which to the influence of quinine may go far to account for the potency of that medicine in such diseases. Experiments made by Krebs, Tizzini, and Bruntlecht to determine a microphytic origin for typhoid fever have resulted in the discovery of organisms which they have associated with the cause of that disease, but they are not yet regarded as fully conclusive. Drs. H. C. Wood and Henry Formad, acting in co-operation with the National Board of Health of the United States, have made experiments in relation to the transmission of diphtheria, the results of which indicate that that disease is also caused by micrococci which may exist within the system in different degrees of activity—moderate in ordinary sore-throat, intense and malignant in diphtheria.

On the other hand, M. Bouchardat, acting under the direction of the municipal authorities of Paris, has examined the sanitary effects of some of the mephitic odors with which that city has been troubled, and has concluded that they are not seriously injurious in the absence of microphytic germs, unless the gases that occasion them are present in such bulk as to operate as poisons. A commission has also been engaged in Paris in the examination of the effect of cemeteries on the public health, and has found that under all ordinary conditions of good management they are free from the deleterious qualities that have been popularly ascribed to them. It is not denied, however, that cemeteries may be so carelessly kept as to become dangerous.

Other illustrations of the progress that has been made in the sedulous and laborious study of forms of disease are afforded in the case of nervous disorders, which are now traced to general changes taking place in other parts of the system; and those processes have been connected with certain signs by which they are recognized clinically. Even in psychological medicine insanity has been demonstrated to be the result of definite cell-change. The smallest degree of progress has been made in what are termed the general diseases of the system; but, among these, diseases of the blood-elements have received certain definite explanations—gout has been elucidated in its chemical results, and diabetes has been studied as a question of physiology but little as a disease, while of tetanus, chlorosis, and scrofula “but little more is known than the descriptions of Hippocrates tell.”

Great and wide progress has been made in the study of the signs and symptoms of disease. A definite value and explanation have been given to the symptoms, and the signs of disease have received their true meaning. A direct effect of disease has been observed as the natural center for a group of symptoms, which, without such explanation, were isolated and unintelligible. While local lesions have been clearly defined, the “constitutional” effects have been more observed; and these effects, always recognized as they have been by signs to which a purely empirical value was attached, are now measured with the certainty of scientific observation. The relations of the topical disease to the whole system—usually the main inquiry in each case—are thus determined.

The study of disease by the methods of investigation represented by the stethoscope, ophthalmoscope, thermometer, and by urinoscopy, has been elaborated and formulated to an extent which the authors of those methods did not dream of. Through them a certainty and precision are afforded to certain signs which must in all cases be inquired into, but which, before the use of such means, were most vague and undefinable. Electricity, also, has been made to contribute materially to the more precise determination of the general effects and conditions of disease; and other means, of smaller and more limited scope, have assisted to build up a broad basis of semeiology which is of the utmost value because it supplies a positive estimate of the vital powers and the constitutional relations of local disease that are fundamental factors in every case, and could otherwise only be vaguely guessed.

The study of children's diseases has been greatly accelerated by the multiplication of hospitals for children. Thirty years ago there was not a single hospital set apart for children in England and America, and investigation in this branch of the science could be pursued with any degree of success only in Paris. Now, London has several special children's hospitals, and similar institutions are established

in every large town in England, while children's wards have been provided in most of the large hospitals. Nearly the same is the case in the United States and Germany, and almost everywhere throughout Europe the opportunities for the study of the diseases of children are almost as numerous as for the diseases of adults. The fruits of the labors that have been pursued under the advantages thus afforded may be counted with satisfaction. The vague phraseology which served for years to conceal ignorance respecting the affections of childhood has been, to a great degree, done away with. Physicians no longer talk of worm fever, remittent fever, gastric fever, etc., as distinct diseases, but recognize under these names the one disease, typhoid fever, varying in severity, but marked always by its own characteristic symptoms. Half a page in a hand-book was all that was to be found, thirty years ago, concerning heart-disease in childhood; while at the present day the frequency of heart-disease has been fully recognized, and it has been studied with as minute a care in the child as in the adult. The various inflammations of the respiratory organs are no longer looked on as a whole, but each is referred to its proper class. That once almost unrecognized disease, diphtheria, has been studied with the greatest care; its relation to membranous croup has been investigated, and the close connection of the two has been demonstrated. Much light has been thrown on the various diseases of the nervous system. The so-called essential paralysis of infancy has been traced by the researches of Messrs. Roget and Damasceno to its proper source, and the pseudo-hypertrophic muscular paralysis of Duchenne has been the means of affording a new and important addition to our knowledge of the pathology of early life. Corresponding advances have been made in the therapeutics of children's diseases.

Physicians and surgeons have gained knowledge concerning the relation of the various organs of the body and their affections, the value of which is beyond estimation, from investigations pursued on animals; yet the opposition to vivisection is maintained with unabated zeal. The duty of the state to encourage rather than discountenance researches of this kind was admirably presented at the International Medical Congress, by Mr. John Simon, who maintained that all that we know or can know of the causes of disease is, and must be, learned by experiment. He showed that the experiments that instruct us on the subject are of two kinds: scientific experiments, carefully pre-arranged and comparatively few, performed in pathological laboratories, and for the most part on other animals than man; and “the experiments which accident performs for us, and, above all, the incalculably large amount of crude experiment which is popularly done by man on man under our present ordinary conditions of social life.”

Thus, in regard to Asiatic cholera, we have the scientific infection experiments of Professor Thiersch, and others, performed on a few mice; and, on the other hand, the popular experiments which were performed on a half million human beings in London, during the cholera epidemics of 1848-'49, and 1853-'54, by the water companies. M. Villemin has gained information of incalculable value concerning the causes and nature of tubercle from his laboratory experiments on other animals than man, and has been followed by others who have extended and developed his discoveries. Professor Gerlach, of Hanover, has, in a similar manner, studied the transmissibility of tubercle from animals to man by eating their flesh and drinking their milk. The popular experiments, performed by milk-dealers serving their customers, which lead us to suspect that tuberculosis might be transmissible through milk, are performed daily upon thousands of human beings. The scientific experiments which have made us certain of the fact were conclusive when they amounted to half a dozen. Thus, without making any account of the relative value of human beings and animals, the scientific experiments are vastly more economical than the popular. They have the further advantage of being precise and exact, while the popular experiments very often have in them sources of ambiguity which lessen their usefulness for teaching. The principal problems to be solved in preventive medicine are how, by cross-breeding or otherwise, to convert a short-lived or constitutionally enfeebled stock into a long-lived or vigorous one, which has hardly yet become a practical question; and how to avoid or resist the extensive interferences which shorten life, on which much has been learned by vivisection, and much remains to be learned. Of the investigations in the latter line, which have led to results of momentous value, are cited the diversified researches of Pasteur and others on germs, and their specific applications to the diseases of domestic animals and man; Drs. Klebs and Tommasi Crudelli's examinations into the intimate cause of marsh-malaria; Dr. Grawitz's studies of the conversion of ordinarily harmless microphytes into agents of deadly infectiveness; Dr. Lister's applications of Pasteur's discoveries to the antiseptic treatment of wounds; Professor Semmar and Dr. Krajewski's discovery of inoculation against septicæmia; and Dr. Schüller's contributions to the treatment of tubercular and scrofulous affections, on the basis of their microphytic origin. No work has been performed of more promise to the world than these various contributions to the knowledge of disease, its cure and prevention; and they are contributions which, from the nature of the case, have come, and could only have come, from the performance of experiments on living animals.

The controversy about vivisection which is now going on, though at first sight appearing

like a retrograde movement, will, in all probability, end in a substantial advance of the interests of medicine. The public, including even the mass of the opponents of vivisection, have only to be properly informed of the immense service it has been made and may yet be made to render to the health and happiness of mankind, to be willing to give to suitably qualified experimenters all the liberty of research they require. The present contest is, in most of its aspects, a repetition of the old battle which was formerly waged against the dissection of human bodies. Many of the stock-arguments which were then employed in opposition to the direct study of human anatomy are now made to do duty over again against the study of physiology through the analogies exhibited in the structure of animals. Now, as then, discussion is destined to result in enlightenment, and vivisection will eventually be recognized as a legitimate method of investigation.

The most important step in therapeutics, and probably the most important in the whole history of that branch of the science, consists in the adoption of a definite physiological aim in the use of remedial measures, of the practice of administering medicines with a definite purpose to produce a distinct physiological effect, instead of employing particular drugs with a vague idea that general favorable results have been remarked from their use. This principle is the necessary result of the clearer definition of disease and of the action of drugs. When the aggregate symptoms presented by a disease were analyzed, one generally assumed a causal relation to the others which singled it out as the object of therapeutical attack. Or, again, the urgency of certain symptoms, or the irremediable character of the essential lesions, rendering other treatment of no avail, gave a purely symptomatic aim to the whole plan of treatment. The principle of this method is that no true progress in therapeutics can be made if more than one drug is employed, since a favorable result can be attributed to no single drug—so that only a single drug is to be administered for a single intention. Where no definite therapeutic indication can be observed no drug is to be used. This is the modern justification of "expectant" treatment. But disease is seldom a single pathological condition, with a single essential symptom, which a single remedy can relieve. The latest tendency in therapeutics is to revert cautiously and partially to the combination of remedies, still following pathological indications, but not submitting the whole plan of treatment to a single dominant symptom; and this tendency may be plausibly referred to the more constructive or synthetic mood which seems of late to have come over medicine. It may be illustrated in the modern treatment of consumption, in which, in place of the sedative treatment that sent sufferers to a moist, relaxing climate, a stimulating and bracing plan of open-air life has been adopted. The former method was

the treatment of symptoms—that is, of the cough; the latter is the treatment of the essential disease, by improving the constitutional powers. There can be no doubt of the value of the one-drug treatment of disease, nor that it is strictly scientific and has largely contributed to the advance of therapeutics. It is essentially the definite basis of therapeutics, and, in appropriate cases, gives the chief successes of medicine. But where disease is a complex condition, the treatment must also be complex; and, even where a single cause can be defined, its effects and results give to the affection a complex character.

Improvement in the methods of treatment of the insane has been manifested in the discarding of the system of mechanical restraint, and the substitution of judicious mental control; in the tendency to prefer for all classes of patients public to private institutions, which is illustrated by a bill that was introduced into the British Parliament in 1881, to facilitate the extension of the privileges of the public institutions to private patients; and in the increasing esteem with which the treatment of lunatics in private families is regarded.

The essential aim of therapeutics may be stated as being the induction of a physiological process for the remedy of disease. The more nearly this induced process assumes a definite chemical or dynamic form, the more positive and direct is its action; and recent advance has greatly tended toward the statement of many therapeutical problems in chemical or mechanical terms. At the same time, the influence of the nervous system is so constant and direct in every process of the body, that these problems must always be distinctly physiological, and can not be stated as purely chemical or mechanical. The nervous element is, however, neutralized as an interrupting element, in many cases, by its very constancy, by reason of which it is present alike on either side of the equation, both in cause and effect. But if therapeutics has been thus simplified in one direction, it has made use of more complicated physiological processes in another direction. Some of its most certain and remarkable effects are obtained by acting upon the nerve-centers in the brain and spinal cord, by which these effects are normally induced. Nervous influence is thus subordinated to, in place of disturbing, the therapeutic plans. Very striking in this connection are the results obtained by the precisely localized and measured action of heat and cold upon the central nervous system.

The growing identification of therapeutics with physiology is also seen in the hygienic treatment of disease. Not only are hygienic measures used for general purposes of advantage, but distinct applications of hygiene are employed for a distinct physiological effect. Schemes of dietetics, for instance, are not only used with negative precautionary aims, but with positive remedial intentions. By the

prevalence of certain climatic conditions, natural or artificial, physiological states of the body are induced, and may be calculated upon as distinctly curative. Exercise may be so ordered that particular secretions and processes shall be stimulated, while others are unaffected. This mode of treatment has largely displaced the use of drugs, and has greatly diminished the expectation of specifics, if not the desire for them.

The advance of chemistry has produced some new remedies of importance, which have not, however, been derived from the organic side of the science. No connection has been traced between the chemical composition of the essential principle of a secretion and a chemical remedy; and while chemical stimulants and depressants have been demonstrated for every organ, their action has not been explained by any law of chemical or physical constitution. The rule established by Rabuteau, that the therapeutic energy of soluble metallic salts is in direct ratio with the atomic weight of the metal contained in the salt, suggests probabilities of the enunciation of such laws in the future.

The relation of electricity and disease has been well investigated; a precise code of electro-therapeutics has been established, and clear results of considerable value have been obtained; but it can not be said that electricity has been as successfully applied in the remedial as in the diagnostic section, and a feeling of disappointment in regard to its influence on disease has been produced.

Important advance has been made in the principles of the administration of drugs, especially in the matter of their application to the part they are designed to affect as directly as possible. By the subcutaneous injection of the active principle of drugs, the effect is more localized and less constitutional disturbance is produced than when the administration is by the mouth. Moreover, the remedy acts more quickly, and enters sooner into the general circulation; and the risk of decomposition before absorption, which is incurred by admixture with the digestive fluids, is avoided. The method of direct application is also exemplified in the inhalation of suitable substances by smoking in a pipe or cigar. So much doubt has been cast by physiology upon the absorbing power of the skin, that external treatment by lotions and ointments has been greatly restricted.

Special study has been given to the employment of anæsthetics. A considerable number of substances have been used more or less extensively, and their physiological effects have been closely compared. A smaller quantity of the inhalent has been found to be sufficient, and happier results—in view of the slight danger to life incurred in ordinary inhalations—have been obtained by the method of “mixed narcosis,” or the subcutaneous injection of narcotics before the administration of the in-

halent. The more correct principle of local anæsthetization, in which the disturbance of the system is avoided, has been successfully adopted in the application of the freezing effect of the ether-spray. The physical and mental quietude induced by inhalation must, however, always keep a place for it in appropriate cases.

Modern surgery has shown a tendency to become more conservative—to dispense with the knife, and rely more upon the recuperative and compensatory capabilities of the body; and in this respect has distinctly approached medical practice. Medicine, on the other hand, is tending toward the adoption of manipulative measures; and thus the line of demarkation between the two branches of the healing art is becoming more and more faint. Such departments as obstetrics, and affections of the eye, ear, larynx, and skin, are both medical and surgical; and the two branches are inseparably blended in the general study of disease, as is exemplified in the introduction of instrumental means of diagnosis and treatment, the object of which is to bring diseased structures within manipulative reach. By the invention and improvement of means of this kind, our generation has made much disease of internal structures to be seen, felt, and handled. Thus has arisen a large body of special knowledge and practice around many organs. The eye, ear, and larynx, for instance, have respectively a peculiar art and science. It is not to be expected that specialisms of this character will die out of medicine. As the study of each organ increases in extent and profundity, and the treatment of its diseases and defects becomes more complex and delicate, special talent and culture will always be recognized. Recent progress in the "special" developments of practice has been sound and sure, in so far as it has traced its researches on sound pathological principles.

Of the relations of some of these special investigations to general medical practice, Dr. George Johnson said, in his address before the section on Diseases of the Throat, that among the most interesting and important of the scientific and practical gains which have resulted from the use of the ophthalmoscope and the laryngoscope, "is the fact that, by the inspection respectively of the interior of the eye and of the larynx valuable light is often thrown upon the diseases of remote but physiologically correlated organs. If, for example, the ophthalmoscopist sees in the eye a retinitis significant of renal disease, a neuritis indicating cerebral tumor, or an embolism the result of valvular disease of the heart, so, in like manner, the laryngologist is often led by the observation of the paralytic or spasmodic condition of one or more laryngeal muscles to the diagnosis of a general neurotic condition to which the term hysteria is often applied, or of a special local disease in the nervous center, or, it may be, of a tumor, cervical or intra-

thoracic, pressing on the pneumogastric nerve or its branches. It is obvious that all clinical facts of this kind, indicating, as they do, the interdependence and the close physiological relationship between various tissues and organs, are of great scientific and practical importance. There is reason for the belief that the more thorough and profound is the investigation of any disease or class of diseases, the more numerous and intimate will be found to be the relationship with other morbid states."

Of the modern development of surgery, Surgeon John Eric Erichsen remarked: "The continuous advance in our art is undoubted. The gain that thus results has been definitely secured to surgery and to mankind. It can never be lost. Every conquest that has been made has been permanent. Year after year some new position has been won—often, it is true, after a hot conflict of opinion. But, once occupied, it has never been abandoned. Thus our stand-point has ever been pushed on in advance."

Modern conservative surgery is marked by the care that is taken for saving blood in operations, which is strikingly in contrast with employment in former practice of bleeding to subdue or prevent inflammation attendant upon surgical treatment. By the new practice of the excision of diseased joints in cases where the whole limb would formerly have been removed, an arm or leg can be preserved with a degree of impairment of movement that makes it only less useful than the limb before it was diseased. Resection has of late years come to be extensively applied in the treatment of cases of articular disease which formerly were subjected to procedures of a less heroic character—a course the expediency of which, Dr. Erichsen suggests, should be well weighed before it is entered upon. The most important advance in surgery is the adoption of the antiseptic process and the rigid exclusion of the surrounding air from wounded surfaces. Whether all putrefactive processes in wounds are caused by the development of living organisms, as is generally believed, or partly result from other poisonous agencies, concerning which some differences of opinion may still exist, a substantial agreement prevails that the use of antiseptics renders innocuous certain poisonous matters which are met with in a wound exposed to the air. The effect is practically the same if the purification of the air is attained by thorough sanitary measures. Professor Volkmann said of the antiseptic method in his address before the International Medical Congress: "By rescuing from the domain of chance the results of our labors, . . . the antiseptic method has elevated surgery to the rank of the latest experimental science. Never has a discovery been made in surgery which has even approached this in its benefits to humanity in general. . . . To-day we may say, with the deepest conviction, that the surgeon is responsible for every disturbance which oc-

curs in a wound; that it is his fault if even the slightest reaction or redness is developed in it, or if an amputation is not healed by first intention"; and, speaking of the simplification of processes that has attended the employment of this method, he remarked that "it would appear that in association with anæsthetics and the bloodless method antiseptic surgery has deprived all important operations of their terrors." While for the forty years previous to the adoption of the antiseptic treatment fatal wound-diseases raged, patients with compound fractures most frequently died of them, and even those with the slightest injuries often succumbed to them, and erysipelas and abscesses were matters of daily occurrence, and during later years hospital gangrene became very prevalent and fatal, now, operations are conducted which would have been regarded then as madness, or as crimes; and even young doctors are able with impunity to venture upon operations which the most daring surgeon did not think of. While Dr. Volkmann and his predecessor in the hospital with which he is connected had experienced a loss of forty per cent of the cases of compound fracture that they had treated, and Dr. Volkmann's last cases before he adopted the antiseptic treatment had all died of pyæmia or septicæmia, he has since lost none from wound-diseases and only two from other causes out of 135 cases of compound fracture, and only four or five per cent in direct consequence of the operations out of 400 cases in which the larger limbs were amputated. Thus amputation of the larger limbs has become almost free from danger; certainly less dangerous than many small operations were formerly, the mortality of which was never discussed. The adoption of the antiseptic system has made it possible to counteract the noxious qualities of the "infected air" of hospitals, and to perform operations in the most crowded institutions of large cities almost as safely as in the open country. With the aid of the new method, operations of an increasingly formidable character are carried on with diminished mortality and almost assured safety, and are made to confer life and health upon thousands who must otherwise have suffered for years or have miserably perished. Among the most striking operations of this kind may be named the extirpation of deep-seated and important organs, such as the pancreas, spleen, kidney, and thyroid gland; the removal of a part of the stomach and pylorus by Billroth, and of a part of the small intestine by a surgeon of Strasburg, both with perfect recovery. The operation of cutting for stone has been practically abolished since the introduction of Bigelow's method for crushing the stone and securing its removal by natural ways, at a single operation, a method which Dr. Erichsen says has effected a complete revolution, and has wholly changed the character of lithotrity, and which, he adds, there is every reason to believe "constitutes one of those real advances

in a method which marks an epoch not only in the history of the operation itself, but in the treatment of the disease to which it is applicable." The larynx has been more than once successfully removed and replaced by an artificial voice-organ; and the use of the laryngoscope has made the easy removal of morbid growths and foreign bodies an every-day proceeding. In regard to the treatment of aneurisms, the ligature and compression still have their partisans, and improvements in either process seem to keep pace with those in the other. Compression was most in favor a few years ago. The invention of improved ligatures, made of various kinds of animal tissue and applied with antiseptic precautions, once more inclined the balance of professional opinion in their favor; but now again the practice of compression has received renewed strength from the employment of Esmarch's elastic bandage. Wounded joints are now freely opened and successfully treated. Among new operations in plastic surgery may be named skin-grafting, and the transplantation of the cornea of the eye.

In the category of the development of medicine by the adoption and absorption of means and principles of other arts and sciences, may be placed the adoption of new drugs whose action has been investigated, either by physiological experiments or by study of their chemical effects. The isolation of the active principle of a drug is a decided approximation to scientific precision; but the clinical gain from this source is not always indubitable, for the entire drug is often seen to act with more advantage than the simple alkaloid, even though the alkaloid is practically the therapeutic power of the drug. It is not yet clear whether this difference is due to the chemical or molecular condition in which the active principle is present in the plant, or to the modifying influence of other slightly powerful substances. The vegetable kingdom has supplied the great bulk of the recent additions to the list of drugs, and chemistry has given some most important remedies, but the animal kingdom, where many favorite remedies were formerly found, is now hardly regarded. A great power has always been recognized in the enlightened practice of hydropathy, but it can not be said that its therapeutic function has as yet been definitely established. Good results have been obtained in the application of gymnastics for its decided remedial value in particular affections as well as, and quite distinct from, its beneficial effect as exercise and in the culture of the physical powers. Many nervous and muscular disorders, and other disorders in which the main defect seems to be in the controlling power of the brain, are certainly benefited by such treatment; and the brain can often be thus educated so as to establish a normal functional action in the place of one that is aberrant or altogether wanting. The study of climatology has been carried on without yield-

ing definite results respecting the nature of the relations between climate and health or disease.

Under the head of development by the adoption and application of material from external sources, come the application of "drugs which are used with beneficial effect, but to which no particular place or value in medicine has been assigned; methods which have been employed with advantage, but have not received a distinct medical function to discharge; instruments of decided utility, but which have not been adopted as part of the regular procedure of practice; theories which look very like truth, but have not been positively demonstrated. The great characteristic of this category is its state of incessant flux and change."

Speaking generally, it may be said that the tendency of our generation in medicine has been constructive or synthetic, in contrast with the infinitesimally analytical spirit of its earlier years. In pathology the great mass of disease has been reduced to a basis of elementary morbid lesions, modified only by the function and structure of the organ in which they appear. In semeiology, the measurement of the extent of the impairment of the vital processes supplies the basis for a definite estimate of every case of disease. In therapeutics, general constitutional treatment increasingly supplants the tinkering of one or two symptoms only; and when the affection can be resolved into a single radical symptom, the remedy often attains the positiveness and completeness of a physiological demonstration; while still broader principles of hygiene frequently supersede entirely all other therapeutic measures. Medicine also recognizes more and more that its care is for health as well as for disease, to prevent as well as to cure, and, observing that the beginnings of disease are often in more or less avoidable violations of the conditions of health, seeks to prevent these violations. Under this policy, results of the most striking and important character have always been obtained in what is termed public hygiene. Even by the rudimentary practice of sanitation, which as yet alone obtains, the most terrible forms of disease have been banished. The plague and leprosy have practically disappeared in every civilized country, and other diseases have assumed a much milder form. With more efficient sanitary measures, the diseases caused by specific poisons, such as small-pox, typhoid, hydrophobia, etc., will, in all probability, entirely disappear.

From statistics of medical literature, which were presented to the International Medical Congress by Dr. John S. Billings, it appears that the contributions to medicine properly so called (excluding from the category popular medicine, pathies, pharmacy, and dentistry) form a little more than 1,000 volumes and 1,600 pamphlets yearly. The "Index Medicus," for 1879, shows that the total number of new

medical books and pamphlets, excluding periodicals and transactions, published in that year, was 1,643, divided as follows: France, 541; Germany, 364; United States, 310; Great Britain, 182; all other countries, 246. Besides these, 693 inaugural theses were published in France alone, to say nothing of those that appeared in other countries. Periodicals form about one half of the current medical literature, and constituted, in 1879, 655 volumes. Of these the United States produced 156 volumes, Germany 129, France 122, Great Britain 54, Italy 65, and Spain 24. This is exclusive of journals of pharmacy, dentistry, etc., and of journals devoted to medical sects and isms. The whole number of volumes of medical journals and transactions of all kinds was, for 1879, 850, and for 1880, 864. The total number of original articles in medical journals and transactions published in 1879, which were thought worthy of notice in the "Index Medicus," was a little more than 20,000. Of these, 4,781 appeared in American periodicals, 4,608 in French, 4,027 in German, 3,592 in English, 1,210 in Italian, 703 in Spanish, and 1,248 in all other periodicals. The number was nearly the same in 1880. It thus appears that more articles of this class are published in the English language than in any other, and that the number of contributions to journals is greatest in the United States. The actual bulk of periodical literature is, however, greatest in Germany, owing to the greater average length of the articles. The list of authors shows that the number of physicians who are writers is greatest in proportion to the whole number in the profession in France, and smallest in the United States.

METHODIST ECUMENICAL CONGRESS. An Ecumenical Methodist Congress, in which all the Methodist Churches of the world were represented by delegates, met in the Wesleyan Chapel in City Road, London, September 7th. The Congress was composed of four hundred delegates, consisting of ministers and laymen in equal numbers, of whom two hundred were allotted to the Methodist Churches of Great Britain and the colonial and mission churches immediately affiliated with them, and two hundred to the churches of the United States and Canada. The allotment among the churches severally was as follows: Wesleyan Conference (Great Britain), 88 delegates; Primitive Methodist Church, 36 delegates; United Methodist Free Churches, 22 delegates; Methodist New Connection, 12 delegates; Bible Christian Church, 10 delegates; Wesleyan Reform Union, 4 delegates; Irish Wesleyan Conference, 10 delegates; French Wesleyan Conference, 2 delegates; Australasian Wesleyan Methodist Connection, 16 delegates; Methodist Episcopal Church, 80 delegates; Methodist Episcopal Church, South, 38 delegates; African Methodist Episcopal Church, 12 delegates; African Methodist Episcopal Zion Church, 10 delegates; Colored Method-

ist Episcopal Church, 6 delegates; Methodist Protestant Church, 6 delegates; Evangelical Association, 6 delegates; United Brethren Church, 2 delegates; American Wesleyan Church, 4 delegates; Free Methodist Church, 2 delegates; Primitive Methodist Church in the United States, 2 delegates; Independent Methodist Churches, 2 delegates; Congregational Methodist Church, 2 delegates; Union American Methodist Episcopal Church, 2 delegates; Union African Methodist Protestant Church, 2 delegates; Methodist Church of Canada, 12 delegates; Methodist Episcopal Church of Canada, 4 delegates; Primitive Methodist Church of Canada, 2 delegates; Bible Christian Church of Canada, 2 delegates; British Methodist Episcopal Church, 2 delegates.

The Rev. George Osborn, D. D., President of the British Wesleyan Methodist Conference, presided at the opening meeting. A new presiding officer was appointed for each subsequent day. The introductory sermon was preached by Bishop Matthew Simpson, D. D., LL. D., of the Methodist Episcopal Church, and embodied a sketch of the rise and progress of Methodism. The regular discussions of the Congress were begun on the second day, September 8th, with the consideration of the general topic of "The grateful Recognition of the Hand of God in the Origin and Progress of Methodism," under which were included papers on "Methodism; its History and Results," by the Rev. N. Cooke, D. D., of the Methodist New Connection; "Some Statistical Results of Methodism," by the Rev. Arthur Edwards, D. D., of the Methodist Episcopal Church; "Methodism a Power, purifying and elevating Society," by the Rev. William Arthur, of the British Wesleyan Methodist Connection; and "The Influence of Methodism upon other Ecclesiastical Bodies, and the Extent to which they have modified Methodism," by the Rev. A. W. Wilson, D. D., of the Methodist Episcopal Church, South; with invited and voluntary addresses by various speakers on each of the topics. The subject of the "Evangelical Agencies of Methodism" was considered on the third day in papers on "The Itinerant Ministry," by the Rev. S. Antliff, D. D., of the Primitive Methodist Church; "Lay Preachers," by the Hon. J. W. F. White, of the Methodist Episcopal Church; "Women and their Work in Methodism," by the Rev. F. W. Bourne, of the Bible Christian Church; "Scriptural Holiness and the Special Fitness of Methodist Means of Grace to promote it," by the Rev. J. P. Newman, D. D., of the Methodist Episcopal Church. The general subject of the "Training of Children" was discussed on the fourth day with papers on "The Training of Children in Christian Homes, so as to bring them to Christ, and attach them to Methodism," by the Rev. Joseph Wood, of the Primitive Methodist Church; "The Training of Children in the Sunday-School and Church so as to secure the largest Evangelical Results," by Dr. H. A. Thompson; and "Sun-

day-Schools and Evangelical Denominational Results," by G. J. Smith, J. P. Papers were read on the fifth day on "The Relation of Methodism to the Sabbath," by the Rev. John Baker, of the Wesleyan Methodist Connection; "The Relation of Methodism to the Temperance Movement," by Bishop D. A. Payne, of the African Methodist Episcopal Church; "Juvenile Temperance Organizations and their Promotion through the Sunday-School and Church," by the Rev. Charles Garrett, of the Wesleyan Methodist Connection; and "Civil Measures to suppress Intemperance, and the Relation of the Church to such Movements," by the Rev. J. M. Walden, D. D., of the Methodist Episcopal Church. The papers read at the sixth day's session were on "The Probable Perils of Methodism from the Papacy, from Sacerdotalism, and its Connected Errors," by the Rev. J. Guttridge, of the United Methodist Free Churches; and on other perils to Methodism "From Modern Skepticism," by the Rev. Daniel Curry, D. D. (read for him in his absence), of the Methodist Episcopal Church; "From Formality, Worldliness, and Improper Amusements among our Members," by the Rev. J. W. McKay, D. D., of the Irish Wesleyan Church; and "From Innovation upon Established Methodist Usages and Institutions," by Bishop Joseph P. Thompson, of the African Methodist Episcopal Zion Church. The topic for the seventh day was "Education." The papers were on "The Higher Education demanded by the Necessities of the Church in our Time," by the Rev. J. G. Osborn, of the Wesleyan Methodist Connection; "The Duty of the Church to maintain Schools which are Christian in their Influence and Character," by C. G. Andrews, D. D., of the Methodist Episcopal Church, South; "The Education and Special Training of Ministers in Theological Institutions," by the Rev. W. B. Pope, D. D., of the Wesleyan Methodist Connection; and "Education and Special Training while engaged in Ministerial and Pastoral Work," by the Rev. E. J. Badgeley, of the Methodist Episcopal Church. Papers were read on the eighth day on "The Use of the Press for the Advancement of Christianity," by the Rev. T. S. Withington, of the United Methodist Free Churches; "The Newspaper and the Use to be made of it by the Church," by the Rev. C. K. Marshall, D. D., of the Methodist Episcopal Church, South; and "Methodist Hymnology," by the Rev. G. Osborn, D. D., of the Wesleyan Methodist Connection, the Rev. J. M. Buckley, D. D., of the Methodist Episcopal Church, and others. The subject for the ninth day was "Home Missions and Benevolent Work." The papers were on "The Maintenance of Home Missions among the most Degraded Populations," by the Hon. John MacDonald; "The Important Work the Methodist Laity have performed in the Direction of Home Missions, and the Great Opportunities which they have in the Future," by T. H. Bainbridge, Esq.; "The Best Means

of reaching the Unconverted Sections of the Richer Classes," by the Rev. S. B. Southerland, D. D., of the Methodist Protestant Church; and "Methodism and its Work for Orphans, for the Aged, and generally for the Dependent Classes," by the Rev. T. B. Stephenson. The tenth and eleventh days were devoted to the subject of "Foreign Missions." The papers were on "The Results of Methodist Missions in Heathen Lands," by the Rev. J. M. Reid, D. D., Missionary Secretary of the Methodist Episcopal Church; "How to avoid Waste, Rivalries, and Confusion arising from Different Methodist Bodies occupying the Same or Contiguous Fields," by the Rev. J. H. Rigg, D. D., of the Wesleyan Methodist Connection; "The Establishment and Support of Training-Schools for Native Converts and Native Ministers in the Foreign Field," by the Rev. W. H. Potter, D. D.; "The Use of the Press in Non-Christian Countries for the Promotion of the Gospel," by the Rev. J. S. Banks; "The Missionary Work required in Papal and Semi-Infidel Nations," by the Rev. A. Sulzberger; and "The Resources of Methodism for the Work of the World's Conversion, and the Duty of developing and employing those Resources," by the Rev. C. C. McKetchnie. The Congress was closed on the twelfth day, with the discussion of the topics: "How Christian Unity may be maintained and increased among Ourselves and made Manifest to the World," by the Rev. A. C. George, D. D., of the Methodist Episcopal Church; "The Catholicity of Methodism," by the Rev. J. Myers; and "Methodism as a Bond of Brotherhood among the Nations," by the Rev. David Allison, D. D.

The readings of the papers were all accompanied by a number of invited and voluntary addresses by members of the Congress, in which delegates from all the bodies represented took part; and the readiness of the representatives of the colored churches to participate in the discussions was particularly remarked.

Resolutions were passed during the meetings, recognizing the good which had resulted from closing the liquor-shops in England on Sundays; taking notice of the extraordinary opening in France for evangelistic work, and of the success which had already attended its prosecution there; expressing appreciation of the successful work of the Women's Home and Foreign Missionary Societies; commending all

well-directed efforts to substitute arbitration or other forms of amicable and peaceful reference instead of war in the settlement of all international difficulties; recognizing the usefulness of the Christian women who are engaged in providing orphanages and homes for the aged and worthy poor, and in other forms of philanthropic work; declaring the growth and manufacture of opium for sale in China "under the direct sanction of the British Government, and virtually as a Government monopoly," to be "a serious obstacle to the spread of Christianity in China, and injurious to the credit and influence of England throughout the civilized world"; and expressing sorrow for the death of President Garfield, of the United States. Replies were adopted to fraternal addresses of the United Brethren Church and of the General Council of the Presbyterian Alliance. Resolutions were passed favorable to the holding of a second Œcumenical Congress in the United States in 1889, and requesting the several Methodist bodies to create a joint executive committee, which should have power to determine the place and time of holding the meeting, the number of delegates, their allotment, and the programme of exercises to be followed. In addition to the regular meetings of the Congress, three evening meetings were held at Exeter Hall, at which representations and addresses were made on the condition and progress of Methodism in America, Australia, and the East; and a general temperance meeting was held. A call, bearing the signatures of a number of delegates of the several Methodist bodies represented at the Congress, has been published recommending the holding in 1884 of a meeting commemorative of the centennial of the organization of Methodism in the United States, to be composed of representatives (clerical and lay) from all the Methodist bodies in America.

METHODISTS. The following is a summary of the statistics of the Methodist Churches of the world, as given from the latest published reports in the "Methodist Year-Book" (Phillips & Hunt, New York) for 1882. The numbers for the Methodist Episcopal Church are to July 1, 1881; those for the Methodist Episcopal Church, South, are for 1880; those of the Canadian, British, and Affiliated Conferences, for 1881. In two or three of the churches the numbers of local preachers are estimated :

METHODIST ORGANIZATIONS.	Itinerant ministers.	Local preachers.	Lay members.
I. EPISCOPAL METHODISTS IN THE UNITED STATES :			
Methodist Episcopal Church.....	12,142	12,323	1,717,537
Methodist Episcopal Church, South.....	4,004	5,568	837,831
African Methodist Episcopal Church.....	1,532	9,760	391,041
Methodist Episcopal Zion Church.....	1,650	3,750	* 300,000
Colored Methodist Episcopal Church.....	633	658	† 112,300
Evangelical Association.....	912	611	113,871
United Brethren.....	2,196	.....	157,885
Union American Methodist Episcopal Church.....	110	22	2,600
Total Episcopal Methodists in the United States.....	33,484	33,017	3,633,045

* Reported by bishops as over that number.

† The latest reported.

METHODIST ORGANIZATIONS.	Itinerant ministers.	Local preachers.	Lay members.
II. NON-EPISCOPAL METHODISTS IN THE UNITED STATES :			
Methodist Protestant Church.....	314	925	113,405
American Wesleyan Church.....	250	200	25,000
Free Methodist Church.....	271	328	12,642
Primitive Methodist Church.....	196	162	3,210
Independent Methodist Church.....	24	....	12,550
Total Non-Episcopal Methodists in the United States.....	2,055	1,615	166,807
III. METHODISTS IN CANADA :			
The Methodist Church of Canada.....	1,178	1,295	125,323
Methodist Episcopal Church of Canada.....	272	255	27,402
Primitive Methodist Church.....	97	270	8,213
Bible Christian Church.....	75	197	7,777
British Methodist Episcopal Church (Colored).....	45	20	2,100
Total Methodists in Canada.....	1,667	2,037	170,720
IV. METHODISTS IN GREAT BRITAIN AND MISSIONS :			
British Wesleyan Methodists in Great Britain.....	1,910	18,711	411,663
British Wesleyan Methodist Missions.....	556	5,600	99,976
Primitive Methodists.....	1,149	15,517	185,312
New Connection Methodists.....	183	1,149	31,652
Wesleyan Reform Union.....	18	611	7,728
United Free Methodists.....	432	3,403	80,603
Bible Christians (including Australia).....	306	1,903	83,370
Total Methodists in Great Britain and Missions.....	4,554	46,899	850,364
V. WESLEYAN AFFILIATING CONFERENCES :			
Irish Wesleyan Conference.....	245	1,800	25,148
French Wesleyan Conference.....	31	....	1,579
Australasian Conferences.....	476	4,480	69,217
Total in Wesleyan Affiliating Conferences.....	752	6,280	96,244
GRAND TOTAL OF MINISTERS AND LAY MEMBERS :			
Methodists in Churches in the United States.....	35,539	34,632	3,799,355
“ in Dominion of Canada.....	1,667	2,037	170,720
“ in Great Britain and missions.....	4,554	46,899	850,364
“ in Affiliating Conferences.....	752	6,280	96,244
Grand total of Methodists and missions in 1881.....	42,512	89,848	4,917,183
NOTE.—Total Methodist population (estimated)..... 24,585,915.			

The whole number of Methodist periodicals is 161. They are classified as follows: Periodicals of the Methodist Episcopal Church (official 20, non-official 43), 63; periodicals of the Methodist Episcopal Church, South, 24; periodicals of the British Wesleyan Methodist

Church, 18; periodicals of other Methodist churches, 56.

I. METHODIST EPISCOPAL CHURCH.—The following is a comparative summary of the statistics of the Methodist Episcopal Church for the years ending July 1, 1880, and July 1, 1881:

	1881.	1880.	Increase.
Number of Annual Conferences.....	96	95	1
Number of missions (not included in conferences).....	16	.....	.....
Number of bishops.....	12	13	d. 1
Number of itinerant preachers.....	12,142	11,719	423
Number of local preachers.....	12,323	12,495	472
Total number of preachers.....	24,465	24,214	251
Lay members on probation.....	164,538	175,259	d. 10,721
Lay members in full connection.....	1,553,029	1,527,137	25,892
Total lay members.....	1,717,567	1,702,396	15,171
Total ministers and members.....	1,742,044	1,726,623	15,421
Number of churches.....	17,656	16,937	719
Number of parsonages.....	5,877	5,771	106
Value of churches.....	\$63,700,774	\$61,926,588	\$1,774,151
Value of parsonages.....	\$8,710,297	\$8,336,634	\$373,663
Total value of churches and parsonages.....	\$72,411,071	\$70,263,222	\$2,147,849
Number of Sunday-schools.....	21,100	20,589	511
Number of Sunday-school officers and teachers.....	219,262	220,209	d. 947
Number of Sunday-school scholars.....	1,592,062	1,570,813	21,244
Number of officers and scholars.....	1,811,324	1,791,027	20,297
Number of presiding elders.....	445	.....	.....
Number of mission superintendents.....	16	.....	.....
Number of pastoral charges left to be supplied.....	.....	.....	.....
Number of local preachers stationed as pastors.....	.....	.....	.....

The “Minutes” of the conferences for 1881, the publication of which was completed in February, 1882, give the following totals for

the calendar year: 11,807 traveling preachers, with 1,218 preachers on trial; 159,764 probationers and 1,553,340 members, giving a total

of 1,713,104 members and probationers; 12,-262 local preachers; 53,937 baptisms of children, 50,972 of adults; 21,007 Sunday-schools, with 221,240 officers and teachers and 1,597,007 scholars; 17,896 churches, valued at \$66,-212,701; 6,103 parsonages, valued at \$8,901,-425. Amount of benevolent collections: for missions, \$565,725; for the Woman's Foreign Missionary Society, \$89,931; for church extension, \$91,825; for the Tract Society, \$13,-832; for the Sunday-School Union, \$17,228; for the Freedmen's Aid Society, \$48,014; for education, \$34,692; for the American Bible Society, \$27,314; for "conference claimants" (disabled ministers, widows and orphans of ministers), \$153,555.

The receipts of the *Freedmen's Aid Society* for the year ending July 1, 1881, were \$96,-141. The society maintained twenty-one schools and institutions in the Southern States, six of which were chartered colleges, three theological schools, and one a medical school; with all of these institutions 89 teachers were connected, and they were attended by 3,158 students. Of the students, 479 were in the primary, 275 in the intermediate, 1,292 in the normal, 412 in the academic, and 195 in the collegiate departments; while 57 were medical, 18 law, and 410 biblical students. The report mentioned additions and improvements that had been made to the buildings of several schools, and represented the financial condition of the schools as improving. A college of carpentry had been established in connection with Clark University, Atlanta, Georgia. Several thousand dollars had been spent in aid of schools for poor whites in the South; and colleges for white people were contemplated at Little Rock, Arkansas, and near Chattanooga, Tennessee.

The *Church Extension Society* received for the ten months ending October 31, 1881, \$200,-001, and disbursed during the same period \$160,322. Three hundred and fifteen churches had been aided by gifts, or loans, or both, and grants to 161 churches, and applications from 50 churches, remained on file. In all, 51 churches (thirty during the year) had been built on the frontier, under a plan contemplating a special gift of \$250 to each church, to be supplemented by an appropriation from the society.

The receipts of the *Board of Education* for the year ending October 31, 1881, were \$9,286, or more than 300 per cent more than were received during the previous year. Eight thousand dollars were disbursed in aid of 100 students in 45 institutions.

The sales of the *Book Concern*, for the year 1880-'81, amounted to \$1,576,783. The whole number of books and tracts issued (books, 630,000 volumes; tracts, 1,444,250 copies) was 2,074,250. The catalogue of publications embraces: books of the general catalogue, 1,375; books of the Sunday-school libraries, 1,300; Sunday-school requisites, 291; tracts not in-

cluded under the previous headings, 1,019; total, 3,985.

The receipts of the *Missionary Society* of the Methodist Episcopal Church for the year ending October 31, 1881, were \$625,663, and its expenditures were \$648,084. The treasury was in debt on the 1st day of November, 1881, \$130,922. The General Missionary Committee met in the city of New York, November 2d, and made the following appropriations to maintain the operations in the various mission-fields during 1882:

I. FOREIGN MISSIONS:	
Africa (Liberia and the interior).....	\$6,000
Central America.....	200
South America (Northeast South America, Southeast and Western South America).....	13,050
China (Foochow, Kiukiang, Peking, and Western China missions).....	70,357
Germany and Switzerland.....	24,000
Scandinavia (Denmark, Norway, and Sweden).....	45,926
India (North India and South India).....	62,759
Bulgaria and Turkey.....	11,754
Italy.....	25,000
Mexico.....	30,000
Japan.....	33,281
Total for foreign missions.....	\$327,327
II. MISSIONS IN THE UNITED STATES NOT IN ANNUAL CONFERENCES TO BE ADMINISTERED AS FOREIGN MISSIONS (including missions in Arizona, the Black Hills, Dakota, the Indian Territory, Montana, New Mexico, Utah, and West Nebraska).....	
	44,365
III. DOMESTIC MISSIONS:	
1. Welsh (Northern New York Conference)....	200
2. Scandinavian.....	17,600
3. German missions.....	40,000
4. French missions (in New England).....	200
5. Chinese missions (in California, New York, and Oregon).....	13,470
6. American Indian missions.....	3,550
7. English-speaking missions.....	167,550
IV. MISCELLANEOUS APPROPRIATIONS.....	78,000
V. FOR THE LIQUIDATION OF THE DEBT.....	60,000
Total of appropriations.....	\$752,262

The foreign missions included 99 missionaries; 70 assistant missionaries (or wives of missionaries); 39 missionaries of the Women's Foreign Missionary Society; 199 native workers of the Women's Foreign Missionary Society; 218 native ordained preachers, 1,152 native unordained and local preachers and teachers and other helpers; 28,127 members; 8,782 probationers; an average attendance on worship of 55,931; 331 day-schools, with 11,-161 scholars; 1,002 Sunday-schools, with 48,-516 scholars; 12 high-schools and colleges, with 39 teachers and 653 students; 8 theological schools, with 18 teachers and 79 students; 632 orphans under care; 271 churches, and 852 other places of worship. Of the members, 2,044 were in Liberia, 224 in South America (the Argentine Republic and Uruguay), 1,724 in China, 9,697 in Germany and Switzerland, 2,782 in Norway, 6,300 in Sweden, 607 in Denmark, 3,169 in India, 27 in Bulgaria, 708 in Italy, 507 in Japan, and 338 in Mexico.

In the *Domestic Missions*, 21 missionaries, 33 local preachers, 1,731 members and 421 probationers, with 21 Sunday-schools having 1,120 scholars, are registered as among the American Indians; and 5 missionaries, 26 teachers and 5 other helpers, 114 members and 46 pro-

bationers, with 8 day-schools having 619 scholars, and 6 Sunday-schools having 189 scholars, among the Chinese.

The reports of the *Woman's Foreign Missionary Society*, made at its annual meeting, May 12th, showed that its receipts for the year had been \$107,932, or \$31,656 more than the receipts for the previous year. It had 2,578 auxiliary societies, 65,662 annual members, and 3,623 life members. It had sent eight new missionaries to foreign fields, and now sustained 38 American missionaries in China, India, South America, Japan, Mexico, and Africa, and supported more than 200 Bible women and teachers, 6 hospitals and dispensaries, 15 boarding-schools, with more than 700 pupils, 125 day-schools, with nearly 3,000 pupils, three orphanages, with about 400 orphans, and two homes for friendless women, and had secured the systematic visitation of more than 1,000 zenanas. Five medical graduates were in the field.

The first session of a *Delegated Conference in India* was held at Allahabad, July 14th to 18th. Thirteen delegates were in attendance from the North India and South India Conferences. The Rev. J. M. Thoburn, D. D., was elected chairman. A constitution was adopted which declares that the delegated conference "shall have the management and control of such interests as are common to the Methodist Episcopal Church in the Indian Empire, and do not legitimately belong to a single annual conference, and may authorize such measures as are needful for promoting or conserving such interests, provided no action be taken contravening the organic law of the Methodist Episcopal Church."

Provision was made for holding sessions every three years—the next being appointed for January, 1884—to which delegates are to be chosen in the proportion of one to every five members of each annual conference, and one lay delegate to each presiding elder's district; and an executive committee of three was appointed to act during the interim between the sessions. A Board of Publication was created, and authorized to establish at Allahabad a Methodist publishing house for India, with an endowment fund of \$100,000. A Board of Education was appointed, whose office should be to promote harmony in the distribution and management of the schools of the Church. A resolution was adopted defining the relations of agents—such as the missionaries of the Woman's Foreign Missionary Society, missionary teachers who do not preach, and others, who are not members of the Annual Conference. A paper on the marriage and divorce laws of India was adopted to be sent up to the Government as the expression of the Church. A memorial was adopted for presentation to the Board of Bishops, asking that bishops who may visit the Indian churches in the future "may arrange to remain two years, or at least through two cold seasons in India during every four years, until such time

as they may deem it best to advise the residence of one of their number in this empire." Statistical reports were presented of which the following is a summary: Members of annual conferences (European and native), eighty; local preachers (European and native), 124; church-members (European and native), 4,668; native Christians, 6,500; secular schools (fifteen for Europeans), 355; scholars, 9,103; Sunday-schools (219 vernacular), 266; scholars (more than three fourths native), 11,386; church-buildings, forty-eight; probable value, \$175,452; parsonages, seventy-three; probable value, \$86,240.

II. METHODIST EPISCOPAL CHURCH, SOUTH.—The receipts of the *Board of Missions* of the Methodist Episcopal Church, South, for the year ending March 31, 1881, were \$108,344. The appropriations made by the board, in May, 1881, for the ensuing year amounted to \$182,750. Besides the home missions within the annual conferences, the board sustained a German mission conference, with which were connected sixteen local preachers and 1,189 members; an Indian mission conference, with 113 local preachers and 4,830 Indian members (besides white and colored members), and with a manual-labor school for boys in the Creek nation and a school for girls in the Choctaw nation; a mission to the French creoles in and around New Iberia, Louisiana, with one local preacher and seventy-two members; a mission in China (Shanghai, Nantziang, and Suchow), with seven foreign missionaries, two women-missionaries, eight native preachers, one local preacher, and 113 members; a mission in Central Mexico, with two foreign missionaries, thirty-four native preachers, twenty-three teachers, 710 members, and 600 day-scholars; the Mexican border mission, on the Rio Grande, with one superintendent, fourteen native preachers, and 699 members; and a mission in Brazil (Rio Janeiro and the province of São Paulo), to which five missionaries are attached.

III. METHODIST PROTESTANT CHURCH.—In the following table will be found a list of the Conferences, with the number of pastors, unstationed ministers, and members of this Church, as given in the "Methodist Protestant Year-Book" (Adrian, Michigan) for 1882. The statistics of the Alabama, Arkansas, Georgia, Georgia colored, Mississippi, North Arkansas, Oregon, South Illinois, and Texas conferences are for 1880; those of the other Conferences are for 1881. The tables give of additional items: number of probationers, 3,009; of Sunday-schools, 1,483, with 21,573 officers and teachers, and 76,409 scholars; number of churches, 1,599; of parsonages, 300. Contributions: for pastors' salaries, \$218,767; for home missions, \$4,210; for foreign missions, \$4,344; for ministerial education, \$1,814; for Sunday-schools, \$10,979; for general purposes, \$11,142. Total value of church property, \$3,062,975.

CONFERENCES.	Pastors.	Unsta- tioned ministers.	Members.
Alabama.....	29	..	2,625
Alabama (colored).....	..	..	.....
Arkansas.....	13	25	700
Baltimore (colored).....	7	1	200
Boston (mission).....	6	..	.....
California (mission).....	2	..	54
Central Texas.....	21	..	1,000
Colorado, Texas.....	15	14	973
Deep River, North Carolina...	10	8	496
Genesee.....	13	6	709
Georgia.....	32	20	2,352
Georgia (colored).....	15	7	642
Iowa.....	35	22	2,637
Indiana.....	59	59	6,623
Kansas.....	53	23	1,419
Kentucky.....	22	13	1,790
Louisiana.....	13	5	551
Maryland.....	111	63	14,473
McCaine (Texas).....	10	12	663
Michigan.....	64	29	2,453
Minnesota.....	15	3	300
Missouri.....	22	21	2,343
Mississippi.....	15	5	1,000
Muskingum (Ohio).....	43	65	10,350
Nebraska.....	20	6	609
New Jersey.....	19	19	1,992
New York.....	35	3	2,574
North Arkansas.....	23	6	300
North Carolina.....	44	36	12,023
North Illinois.....	42	66	2,093
North Mississippi.....	41	37	959
North Missouri.....	20	21	1,000
Ohio.....	51	78	5,725
Onondaga.....	63	34	2,294
Oregon.....	6	4	200
Pennsylvania.....	9	5	550
Pittsburg.....	50	43	6,345
Red River (Texas).....	5	8	113
South Carolina.....	13	9	1,034
South Illinois.....	53	10	2,275
Tennessee.....	19	6	1,244
Texas (colored).....	10	3	300
Texas.....	21	15	1,664
Virginia.....	23	15	3,214
West Arkansas.....	14	..	930
West Michigan.....	43	25	1,222
West Tennessee.....	17	6	1,140
West Tennessee (colored).....	..	..	.....
West Virginia.....	54	102	11,026
Total.....	1,335	939	117,263

The General Conference of this Church meets every four years; the next meeting is appointed to be held in May, 1884. The general interests of the Church and its various enterprises between the sessions of the General Conference are placed in charge of the Annual Council, which consists of the Boards of Ministerial Education, Missions, and Publication, with their secretaries and agents, editors and publishers, and the presidents of the colleges, and meets in July of each year. The Board of Publication, which is elected by the General Conference, has two principal offices or directories—one at Baltimore, Maryland, the other at Pittsburg, Pennsylvania—at each of which a general weekly religious paper and a number of Sunday-school periodicals are published. Besides these, a general religious weekly paper is published at Greensboro, North Carolina, a semi-monthly paper at Magnolia, Arkansas, and a monthly missionary paper at Springfield, Ohio. The literary institutions of the Church include Adrian College, Adrian, Michigan; Western Maryland College, Westminster, Maryland; Yadkin College, Yadkin, North Carolina;

and Gittings Seminary, La Harpe, Illinois. The Board of Missions supports four "home missions," a mission in the Choctaw nation, Indian Territory, and a mission in Japan, where one woman missionary and an assistant are employed and a girls' school of twenty-eight pupils is taught. Its receipts for the year were \$4,761. A Woman's Foreign Missionary Society co-operates with this board. The Board of Ministerial Education received \$3,227, and gave assistance during the year to fourteen young men preparing for the ministry. The publication offices, colleges, boards, and benevolent societies have together property valued at \$402,550.

IV. WESLEYAN METHODIST CONNECTION.—The following is a summary of the statistics of the British and Affiliated Conferences of this Church:

CONFERENCES.	Local preachers.	Traveling preachers	Members.
British Conference.....	24,400	2,571	501,300
Irish Conference.....	1,500	250	24,237
French Conference.....	....	29	1,844
Total.....	26,200	2,350	507,351

The statistics of the Sunday-schools are: in the British Conference, 6,426 schools, 121,493 teachers, 810,280 scholars; in the Irish Conference, 309 schools, 2,760 teachers, 24,500 scholars; in the French Conference, sixty schools, 340 teachers, 2,900 scholars; total, 6,795 schools, 124,593 teachers, 837,680 scholars.

The report of the *Chapel Committee* to the British Conference showed that 141 new chapels had been completed, at a cost of £299,912, which, with the enlargements that had been made to the other chapels, provided 27,669 additional sittings.

The committee of the *Metropolitan Chapel Building Fund* reported that thirty of the fifty churches contemplated by the plan of the fund had been constructed within the Metropolitan District, eleven others were in course of construction, and five more were contemplated.

The *Book-Room* had published forty-two distinct works and fifty-three new tracts, had sold 1,779,000 copies of periodicals and 4,976,572 tracts, besides hymn-books, catechisms, reward-books, etc., and returned £4,300 of funds for distribution to beneficiaries.

The annual meeting of the *Wesleyan Missionary Society* was held in London, May 2d. The Rt. Hon. William McArthur, M. P., Lord Mayor of London, presided. The total income of the society for the year had been £130,093, of which £10,162 had been received from the mission districts, and the expenditures had been £168,403, leaving a deficiency in the accounts of £38,310. The Ladies' General Committee for Education in Foreign Countries had also expended £3,166, besides furnishing school materials, clothing, etc., for the missions. The following is a general sum-

mary of the missions under the immediate direction of the committee of the society, and of the British Conference in India, China, South and West Africa, and the West Indies:

Central or principal stations, called circuits.....	411
Chapels and preaching-places.....	2,493
Missionaries and assistant missionaries, including supernumeraries.....	460
Other paid agents, as catechists, interpreters, day-school teachers, etc.....	2,011
Unpaid agents, as Sunday-school teachers, etc.....	7,906
Full and accredited church-members.....	88,182
On trial for church-membership.....	11,990
Scholars, deducting those who attend both the day and Sunday schools.....	88,867
Printing establishments.....	3

The *Wesleyan Conference* of Great Britain met in its one hundred and thirty-eighth session at Liverpool, July 19th. The Rev. George M. Osborn, D. D., was chosen president. More than one hundred candidates for the ministry who had completed their studies, thirty-six of whom were destined to the missionary stations, were ordained. Sixty candidates were proposed to be received on trial, in addition to a number who had been received in previous years and were waiting on the reserve list, while the number of applications for new ministers was very small. The Conference decided that it could not receive any of the new candidates except those from Wales (where new pastors were needed), and those who had offered themselves for foreign mission-work. The Conference resolved that no candidate who had failed to obtain the minimum number of marks in the preliminary examination of candidates should undergo the usual examination of the district committee, unless in the judgment of that committee he should possess such special gifts as would justify an exceptional procedure. A committee which had been engaged for seven years upon a revision of the liturgy of the "Book of Offices," presented a report recommending certain changes in the services, the operation of which would be to remove or modify passages susceptible of a construction in the direction of sacerdotalism. The recommendations of the committee in regard to the forms for the administration of the Lord's Supper, the solemnization of matrimony, and the burial of the dead, were adopted, and those in respect to the form for the administration of baptism were recommitted. The committee charged with the revision of the catechism was authorized to adopt at its discretion the renderings of the revised version of the New Testament in the proof-texts subjoining to the answers. The General Committee of the Missionary Society was authorized to prepare a plan of organization for the churches in South Africa, for the purpose of constituting them into a distinct, self-supporting church and an affiliated conference. A proposition was made to give a similar organization to the West Indian churches, but was deferred on the ground that those churches were not yet ready for autonomy. The schools for sons of ministers at New Kingswood and Woodhouse Grove were reported embarrassed in finances; and

the Conference decided, as the most effective measure of relief, to suspend the school at Woodhouse Grove and concentrate its support on the one at New Kingswood. The subject of the theatre was brought up by the publication of a pamphlet by a young minister, maintaining that theatres might be made moral and useful. The opinion of the Conference, as expressed by the president, being to the effect that such a transformation of the theatre could not be hoped for in England, the author of the pamphlet expressed regret for having published such views. The Home Mission Committee, having asked the Government to grant an allowance for the seat-rents of soldiers worshiping regularly in Methodist churches, the Government had replied that it never gave money in that form, but offered to provide the allowance under the form of head-money. After some debate as to whether acceptance would not commit it to the appearance of receiving a subsidy from the state, the Conference decided to accept the offer of the Government, and to instruct the committee to take such steps in relation to the money that might be received, as would secure a fair remuneration for provision for Wesleyan soldiers in the chapels, and the utmost efficiency for the religious work in the army.

The *French Conference* met in Paris, June 10th. The Rev. M. Cornforth presided. The statistical reports showed that the Conference had 166 chapels and other preaching-places, 29 ministers, 95 local preachers, 109 class-leaders, 1,775 members, with 104 on trial, 53 Sunday-schools, with 301 teachers and 2,655 scholars.

V. PRIMITIVE METHODIST CONNECTION. — The following is a summary of the statistics of this connection as they were reported to the Conference in June, 1881: Number of ministers, 1,149; of local preachers, 15,597; of class-leaders, 10,709; of members, 185,316; of chapels, 4,360; of other preaching-places, 1,863; of Sunday-schools, 4,097, with 59,279 teachers and 383,202 scholars. The increase in the number of members from the previous year was 2,625. The sum of £4,463 had been paid from the profits of the *Book-Room* to benevolent funds. The year's collections for the *Superannuated Preachers' and Widows' and Orphans'* funds amounted to £7,184, with which two hundred and sixty beneficiaries had been cared for.

The total receipts of the *Primitive Methodist Missionary Society* for missionary and other purposes were reported at its anniversary, May 7th, to have been £35,010. The whole number of home, colonial, and foreign stations was returned as 235, with which were connected 1,237 preaching-places and 309 ministers. Of these, 96 stations, having 8,056 members, were in the Australian colonies and New Zealand, and 92 stations, with 8,222 members, in Canada. The foreign mission at North Aliwal, South Africa, had been contin-

ued with some success, notwithstanding the disturbed condition of the country. The mission at Santa Isabel, West Africa, had suffered from the death of members.

The sixty-second annual *Primitive Methodist Conference* met at Hull, June 5th. The Rev. Charles Kendall was chosen president. New legislation was discouraged. A letter of sympathy with Mr. Gladstone in his parliamentary work and his efforts to remove the difficulties he had to encounter was agreed upon, and a petition was ordered prepared in the name of the Conference in favor of the "local-option" measure which Sir Wilfrid Lawson was urging in the House of Commons.

VI. METHODIST NEW CONNECTION.—The following is a summary of the statistics of this body as presented to the Conference of 1881: Number of chapels, 506; of churches, 465; of ministers, 183; of lay preachers, 1,245; of church-members, 27,770; of members on trial, 3,878; of schools, 452, with 11,093 teachers and 79,954 scholars. The increase of church-members during the year was 797.

The *Book-Room Committee* reported that the receipts of the publication office had been £2,939, and that it had £1,860 of stock on hand. The *Chapel Fund Committee* reported that eleven new chapels and two schools had been built during the year, at a cost of £9,500; that forty-one chapels had had their debts reduced or extinguished to the amount of £6,750; and that a total sum of £13,728 had been raised in connection with the fund. The *Connectional Aid and Extension Fund*, which had been established a year before to raise £12,000 in aid of the mission, chapel, loan, college, and paternal funds, had received subscriptions of £8,740, of which £3,550 had been paid. The receipts of the fund for *Home and Foreign Missions* had been £7,177, but those funds were in debt to the amount of £2,205; the expenditures for missions had been £7,461. The mission in China returned fifty-eight chapels, fifty-five churches, five missionaries, a large staff of native catechists and teachers, 1,091 members, 228 on trial, eleven schools, 140 students, and 19 baptized children. The increase of members during the year was 189.

The *Conference of the Methodist New Connection* met at Halifax, June 12th. The Rev. W. Stacey, D. D., was chosen president, and in his inaugural address called attention to the constitution of the coming Methodist Ecumenical Congress as a triumphant acknowledgment of the principle of equal lay representation, on which the government of the New Connection was based. A resolution was passed approving the reform and equalization of the marriage laws, and ordered to be sent to the Conference on that subject which had been called to meet in London. A resolution was passed approving the motives of the Irish Land Bill, uttering the hope that it might result in good, and expressing sympathy with Mr. Gladstone in his efforts to remove discontent in Ireland.

Especial attention was given to the consideration of the means of extending the influence of the Connection in London; and a deputation, in which the president of the Conference was included, was appointed to visit the metropolis and confer with the superintendents of circuits and with laymen on that subject. A question having arisen respecting the use of the revised New Testament in the chapels, the president suggested that it would be well to wait for a considerable time.

VII. UNITED METHODIST FREE CHURCHES.—The district returns of these churches for 1881 give the number of members as 65,064, and of persons on trial for membership as 6,817, and show a net increase in the home stations of 355. The foreign stations return an increase of 440, making the whole increase for the denomination, 795.

The chapel secretary reported to the Conference in July, as the result of special efforts made in view of the year being the year of the census to obtain returns on all questions relating to connectional property, that the number of chapels was 1,145, of which 662 had been built since 1860, that they cost £1,266,073, and were in debt £405,288; that the school-houses cost £139,000, and were in debt £26,097; that sixty ministers' houses, settled on trust, cost an average sum of £402 each; that the chapels afforded an accommodation of 359,961 sittings, of which 106,412 were let, at an average rent of £3 14s. each. The capital of the Chapel Loan Fund exceeded £10,000.

The *Book-Room* returned a profit of £1,200, available for distribution among the benevolent funds of the Connection.

The annual meeting in behalf of the *Home and Foreign Missions* was held in London, April 25th. The general income of the society for the year had been £17,325, and the expenditure had been £17,047. The Home Mission Chapel Extension Fund was in its fifth year; only a relatively small amount of the promised subscriptions remained unpaid, and the sum of £8,834 had been voted for the purchase of land and the erection of chapels and school-houses. Reports were made of the condition of the missions in East Africa; Sierra Leone, where the churches, in the absence of a European missionary, had been under the care of two colored ministers, and whence liberal contributions had been received to the General Mission Fund; and Jamaica, where the mission had been severely afflicted by the hurricane of August, 1880. The society has also a mission at Ningpo, China.

The *Annual Assembly of the United Methodist Free Churches* met in London, July 27th. The Rev. Richard Chew was chosen president. A resolution of thanks to the revisers of the New Testament was passed, and the work was commended to the study of ministers and people. A question was brought up on the application of a minister formerly of this connec-

tion, who had joined the Congregationalists, to be re-admitted to the Conference, as to whether it was expedient to re-admit ministers who had left the body, and then, presumably because they had not succeeded elsewhere, offered to return. With this was involved the question whether it was right and just to take the applicant when stations could hardly be found for ministers already recognized, and when candidates were obliged to stand over. The applicant was not admitted. A Sunday-school secretary was appointed, an annual day of prayer for Sunday-schools was set apart, and provision was made for the insertion of a column in the numerical schedule showing what scholars had joined the church during the year.

VIII. AUSTRALASIAN WESLEYAN METHODIST CHURCH.—This church includes the several annual conferences in Australia, Tasmania, and New Zealand, the Wesleyan South Sea missions, and local missions to the Chinese in Victoria, the Maories in New Zealand, and Scandinavian settlers. It embraces, according to the statistical reports presented to the General Conference in May, 303 ministers, with 42 supernumeraries, and 104 preachers on trial, 61,045 members, and 8,172 persons on trial for membership.

The receipts of the *Australasian Wesleyan Missionary Society* were reported at the annual meeting in Sydney, January 27th, to have been £14,677. This society has charge of the South Sea missions, including the missions in the Feejee and Friendly Islands, Samoa, and Rotumah, which were formerly under the direct control of the British Wesleyan Missionary Society, and also the newly established mission in New Britain, New Ireland, and the Duke of York Islands, and returned for them 13 English and 55 native ministers, with 33,033 native members and 5,641 persons on trial for membership.

The *General Conference of the Australasian Wesleyan Methodist Church* met at Adelaide, May 11th. The Rev. J. S. Waugh, D. D., was chosen president. An application was received from the New Zealand Conference, asking, on account of its remoteness from the other conferences of the connection, to be set off as a self-governing and independent body. The Conference judged the proposal premature, and invited the New Zealand Conference to submit a plan or constitution for the proposed organization before the change should be definitely pronounced upon. The churches in Tonga, or the Friendly Islands, were erected into a separate district. The resolution of the previous General Conference with reference to class-meetings was re-affirmed. It insists upon attendance at class-meetings as a test for membership in the church, but authorizes the recognition of devout persons "who can not be persuaded to attend the class-meeting" as communicants, and the issuing of communicants' tickets to them. A committee was ap-

pointed to prepare counsels and suggestions for a more efficient conduct of the society classes. A form of service for the public recognition of members was prepared. The subject of the conduct of the Rev. George Brown, missionary in New Britain and New Ireland, who had in 1878 conducted a military or police expedition against cannibal chiefs who had killed and eaten some of the missionary teachers, was reviewed, and Mr. Brown was heard in his own defense. A resolution which had been passed by the New South Wales and Queensland Conference, recognizing the dangerous position in which Mr. Brown had been placed, but regretting that no other course than the one he had taken was open to him which would insure the safety of those of whom he was regarded as the protector, was approved; and a resolution was afterward adopted, expressing sympathy with Mr. Brown, and intimating that he had not violated the regulations which governed the missionary work of the Church. A proposition from the English Wesleyan Missionary Society asking to be relieved from its engagement to assist the Australasian missions with funds, on paying £1,500 for the current year and £750 for the next year, was accepted, with the reservation of the right to review the subject in the next General Conference.

MEXICO (ESTADOS UNIDOS DE MÉXICO, or REPÚBLICA MEXICANA). The following table, reproduced from the "Anales," published by the Ministry of Public Works in 1881, exhibits the population of the different States, etc., of the republic, with their capitals, and the number (for the most part estimated) of inhabitants contained in these last:

STATES, ETC.	Popula- tion.	Capitals.	Popula- tion.
Sonora.....	115,424	Ures.....	8,000
Chihuahua.....	225,541	Chihuahua.....	12,000
Coahuila.....	130,026	Saltillo.....	26,000
Nuevo Leon.....	203,284	Monterey.....	14,000
Tamaulipas.....	140,137	Ciudad Victoria.....	6,000
Vera Cruz.....	542,918	Vera Cruz *.....	10,000
Tabasco.....	104,747	San Juan Bautista.....	6,000
Campeachy.....	90,413	Campeachy.....	14,000
Yucatan.....	302,315	Mérida.....	30,000
Sinaloa.....	186,491	Cullacan.....	8,000
Jalisco.....	983,484	Guadalajara.....	80,000
Colima.....	65,827	Colima.....	25,000
Michoacan.....	661,584	Morelia.....	30,000
Guerrero.....	295,590	Tixtla.....	5,000
Oajaca.....	744,000	Oajaca.....	26,745
Chiapas.....	205,362	Sau Cristóbal.....	10,000
Durango.....	190,846	Durango.....	12,000
Zacatecas.....	422,506	Zacatecas.....	16,000
Aguas Calientes.....	140,430	Aguas Calientes.....	31,842
San Luis Potosi.....	516,486	San Luis Potosi.....	40,000
Guanajuato.....	834,845	Guanajuato.....	62,102
Querétaro.....	203,250	Querétaro.....	27,560
Hidalgo.....	427,350	Pachuca.....	12,000
Mexico.....	710,579	Toluca.....	6,842
Morelos.....	159,160	Cuernavaca.....	65,000
Puebla.....	784,466	Puebla.....	65,000
Tlaxcala.....	188,988	Tlaxcala.....	6,000
Federal District.....	351,804	Mexico.....	250,000
Lower California (Ter.).....	80,208	La Paz.....	8,500
Total.....	9,908,011	.....	.....

* Until recently Jalapa was the capital of the State of Vera Cruz.

In the official report above referred to the area of the republic is set down at 1,921,240 square kilometres (741,791 square miles), while in statistical returns of an official character, published in 1869 and 1873, it stood at 761,640 * square miles. Of the total population shown in the foregoing table, it is calculated that 52 per cent, or 5,130,597, are females. The classification by races appears as follows in the "Anales": Europeans and Spanish-Americans, 1,882,522; pure-blooded Indians, 3,765,044 (the Mexicanos and Cuitlatecos numbering together 1,626,511); and mixed races, 4,260,445. According to Humboldt, the population of New Spain in 1804 was 5,764,731; and Don Fernando Navarro y Noriega gave it (for 1810) at 6,122,354, distributed as follows:

Europeans and Spanish-Americans.....	1,097,928
Indians.....	8,676,281
Mixed races.....	1,338,706
Secular clergy.....	4,229
Regular clergy.....	3,112
Nuns.....	2,093

Total..... 6,122,354

Then the absolute increase of the Mexican population in seventy-two years has been a little over 50 per cent; but in order to determine the precise rate of increase, allowance should be made for the population of the former provinces of the republic—New Mexico, Texas, and (Upper) California. The numerical superiority of females over males among the native inhabitants of the hot lands (*tierras calientes*) of the intertropical regions is a curious fact observed in Mexico as, in general, elsewhere in tropical countries.

The President of the Republic is General Manuel Gonzalez, inaugurated December 9, 1881. The Cabinet was composed of the following ministers: Foreign Affairs, Señor Ignacio Mariscal; Interior, Señor Carlos Diez Gutierrez; Finance, Señor F. Landero y Cos; War, General H. Treviño; Justice and Public Instruction, Señor E. Montes; Public Works, General C. Pacheco.

The President of the Supreme Court (and consequently, by the terms of the Constitution, Vice-President of the Republic) is Licentiate Ignacio L. Vallarta; and the magistrates are: Licentiates Pedro Ogazon, Manuel Alas, Miguel Blanco, José María Bautista, Juan de Mata Vazquez, Eleuterio Avila, Jesus M. Vazquez Palacios, Manuel Contreras, Juan Manuel Saldaña, Pascual Ortiz, and José Fernando Corona; with Señor José Eligio Muñoz, Attorney-General, and the Procurator-General.

The Governor of the Federal District (appointed by the President of the Republic for an unlimited term) is Señor R. Fernandez. The other Governors were as follows:

Aguas Calientes.....	Señor R. Avellanos.
Campeachy.....	" Arturo Shielz.
Chiapas.....	" Miguel Utrilla.
Chihuahua.....	" Luis Terrazas.
Coahuila.....	" Evaristo Madero
Colima.....	" Francisco Santa Cruz.

* See "Annual Cyclopædia" for 1874, in which and in the volumes for 1875 and 1879 are interesting statistics concerning population.

Durango.....	Licentiate Francisco Gomez del Palacio.
Guanajuato.....	" Manuel Muñoz Ledo.
Guerrero.....	General D. Alvarez.
Hidalgo.....	" Rafael Cravioto.
Jalisco.....	Señor Fermín G. Riestra.
Mexico.....	" J. Zubieta.
Michoacan.....	" P. Dorantes.
Morelos.....	" Carlos Quaglia.
Nuevo Leon.....	" G. Garza Garcia.
Oajaca.....	General Porfirio Diaz.
Puebla.....	" Juan N. Mendez.
Querétaro.....	Señor Francisco G. de Cosío.
San Luis Potosi.....	" Francisco Bustamante.
Sinaloa.....	" Mariano Martinez de Castro.
Sonora.....	" C. Ortiz.
Tabasco.....	" M. Foucher.
Tamaulipas.....	" Antonio Canales.
Tlaxcala.....	" Grajales.
Vera Cruz.....	" Apolinar Castillo.
Yucatan.....	" Aucona.
Zacatecas.....	" Jesus Archéfiga.
Lower Califor'a (Ter.)	" Tiburcio Montiel.

The State Governors are elected for a term of four years. The Governor of the Territory of Lower California is appointed by the Federal Government.

The Mexican Minister to the United States is Señor Don Matias Romero, accredited in April, 1882, and successor to Señor M. de Zamacana; and the Mexican Consul-General in New York is Dr. Juan N. Navarro. The United States Minister to Mexico is Hon. P. H. Morgan; and the United States Consul-General at the capital is Mr. David H. Strother. The Archbishop of Mexico is the Rt. Rev. P. A. de Labastida (1863).

The army in 1881 was composed approximately as follows: 20 battalions of foot: 12,200 men and 740 officers; 14 regiments of horse: 4,850 men and 518 officers; 6 brigades (of 5 batteries each) of artillery: 1,645 men and 180 officers; coast-guards: 71 men and 22 officers; 9 corps of rural guards (*guardias rurales*): 1,692 men and 192 officers; and Invalids: 280 men and 19 officers—total, 22,867 rank and file. The navy consists of five gunboats.

The national revenue for the fiscal year 1879-'80 was set down at \$21,936,165.39 in the returns of the *Tesorería General de la Federación*. In the budget for that year the revenue was estimated at \$16,303,455.

The amount and branches of the expenditure for the same year appeared as follows, in the same official returns:

EXPENDITURE.	
Legislative Power.....	\$901,897 69
Executive Power.....	42,170 48
Judiciary.....	319,915 91
Ministry of Foreign Affairs.....	255,290 88
" of the Interior.....	2,432,168 14
" of Justice and Public Instruction....	1,057,188 00
" of Public Works, etc.....	2,179,088 57
" of Finance.....	4,565,519 87
" of War and Marine.....	8,678,562 66
Total.....	\$20,431,797 20

On comparing the total *actual* expenditure (as shown in the foregoing table) with the revenue, it will be seen that the year 1879-'80 was marked by a deficit of \$4,123,342, which, however, is below the usual standard of annual deficits* in Mexico.

* See "Annual Cyclopædia" for 1880, p. 511.

Of the \$1,057,183 expended by the Ministry of Justice and Public Instruction, \$636,811 was for the latter branch. It should be remarked, that the expenses of primary instruction, like those of the benevolent institutions, are defrayed out of the funds of the various municipalities. By far the heaviest drain on the Mexican Treasury is the War Department, the outlay for account of which in 1879-'80 amounted to \$3,678,562, or rather more than two fifths of the entire revenue. The Department of Public Works, etc. (*Fomento*), disbursed \$1,219,063 for railways (subsidies, etc.).

The following schedule presents the budget estimates for each of the four years commencing 1878-'79:

YEARS.	Revenue.	Expenditure.
1878-'79.....	\$16,128,807	\$22,103,046*
1879-'80.....	16,303,455*	23,334,636*
1880-'81.....	17,811,125*	23,128,218*
1881-'82.....	25,725,000*	25,221,696*

In the estimated revenue for 1881-'82 figures an item of \$4,000,000, the presumed yield of a "new impost on tobacco and a new stamp-tax"; and the lottery-tax (consisting of an impost of 10 per cent on the prizes drawn in the State lotteries) stands at \$60,000, against \$32,-856 for the year immediately preceding.

To the statements given in the "Annual Cyclopædia" for 1880 (page 511), in relation to the national debt of the Mexican Republic, there is nothing of importance to add here, save the following declaration published by the Mexican Minister in Paris:

LEGATION OF THE UNITED STATES OF MEXICO IN PARIS, {
PARIS, January 17, 1881.

It has come to my knowledge that the name of the Mexican Government has been mixed up in a very recent speculation in Mexican bonds, under the impression that persons of American nationality were purchasing for its account. This report lacks all foundation. The Mexican Government has nothing whatever to do with them.

The name of the Government of Mexico is frequently being used with reference to the Mexican debt, with the evident object of bringing about rises and falls in the bonds. I am bound to declare that no person whatever has been or is authorized to use the name of the Mexican Government; and whatever telegrams may be supposed to come or may come from Mexico in reference to the debt should be received with the greatest mistrust from whatever sources they may proceed or by whomsoever they may be received. I do not know the intentions of my Government, but I can assert that, when the moment for the settlement of the Mexican credit shall be thought to have arrived, steps will be taken to give due publicity to all interested as to the intention of the Mexican Government; and that, therefore, all letters or telegrams (so frequently received from Mexico from persons in confidential communication with some member of the Government) on questions connected with our credit may be treated as wholly untrustworthy.

E. VELASCO.

The fifth annual installment (\$300,000) of the Mexican indemnity to the United States was paid in 1881 with equal punctuality as in the preceding years.

* From official publications.

The supineness of the Government in regard to the publication of commercial statistics renders it impossible to obtain any other information than that (very meager indeed, owing to the same difficulty) included in the consular reports to the Department of State. In an octavo volume of nearly 700 pages, issued from the *Ministerio de Fomento*, no allusion to the foreign trade of the republic is anywhere met with, notwithstanding some forty pages are taken up with Federal and State finance reports! Reference may be made to the "Annual Cyclopædia" for 1880 (page 512) for details concerning trade and industries. With greater facilities for the transportation of her varied products to the coasts and frontiers, Mexico finds her commerce with Europe and the United States already considerably extended; but the increase will be still more apparent when some of the new railways now in process of construction shall have been completed. Sincere well-wishers of Mexico have for some time past been urging upon the attention of both governments the necessity of a commercial treaty between that country and the United States. Such a measure could not fail to turn the tide of Mexican commerce from European shores to our own, with incalculable benefit to the countries on either side of the Rio Grande.

The great problem of the hour for Mexico is the execution of her numerous railway projects, due for the most part to American enterprise, but eagerly accepted and encouraged by the Mexican Government as the means of developing her unbounded natural resources, and elevating her to the place which Nature designed her to occupy among Western nations. The following extract from a circular issued by the Board of Directors of the Mexican Central Railway Company, and the remarks on railway concerns contained in President Gonzalez's message, of which a few paragraphs are also here transcribed, will throw some light on the progress already achieved in this direction:

MEXICAN CENTRAL RAILWAY COMPANY, LIMITED, {
BOSTON, April 12, 1882. }

Circular No. 3.

This company has constructed 213 miles of its main line from the city of Mexico north, and 136 miles from Paso del Norte south, and twenty miles on the Tampico line. Total amount of road constructed to date, 374 miles. The total interest on bonds issued and to be issued this year, including coupons due January 1, 1883, will amount to \$991,935. After a careful examination of the earnings of the road, as far as reported, and the estimates of General Manager Fink and General Superintendent Anthony, together with the information obtained from all other sources, I estimate the gross earnings of the road for the year 1882, exclusive of earnings on company's materials, at \$1,798,584; deducting 60 per cent for operating expenses (the company paying no taxes), the net earnings applicable to interest will be \$719,434. The company has reserved in the treasury \$2,000 of the first-mortgage bonds and \$2,000 of the stock per mile, which may be applied to the payment of interest during construction if required. When the main line is constructed, this reserve will amount to \$5,800,000 of bonds and \$2,500,000 of stock. The gross earnings

on the division of the road from the city of Mexico north have been up to date \$200,000, exclusive of company material. The amount of subsidy due the company on the line already constructed is about \$5,500,000, and certificates are now being delivered as fast as they can be executed. The cash collected on subsidy to date is \$97,500. This collection was principally made at Vera Cruz, no reports having been received from more distant custom-houses. Basing our estimate upon the amount of duties paid into the several custom-houses of the republic in the year 1881, the company expects to collect in cash the sum of \$800,000 during the present year. The board have resolved to construct the main line as fast as possible, and hope to complete the same during the year 1883; and, to justify them in making contracts for materials in season, so that the work shall not be interrupted, they have decided to raise the sum of \$6,032,500, and they now offer to subscribers, under circular No. 1, or their assigns, the first right to subscribe for that amount, each subscriber under said circular being entitled to subscribe for the same number of blocks which he now holds under circular No. 1. After payment of the first ten per cent no further calls will be made until the subscription under circular No. 2 is exhausted, which will probably be about September 1, 1882.

The total length of railway lines in operation throughout the country in 1881 has been given at 1,865 kilometres (1,166 miles), including 166 kilometres of tramways or horse-car lines. The aggregate passenger traffic for 1880 has been reported at \$8,196,161; the aggregate tonnage of freight at 272,809,729; and the excess of receipts over expenditures at \$4,670,208.

Among other important subjects referred to by President Gonzalez in his message on the occasion of the opening of Congress, April 1, 1881, were the following:

GENTLEMEN DEPUTIES AND SENATORS: To-day we inaugurate the second term of your sessions, which I am happy to say commences under the most favorable circumstances and amid the most flattering prospects. There is no portion of our national domain whose inhabitants are not at this time in the enjoyment of peace; and if, as there seems to be every reason to hope, the good sense of the Mexican people shall continue to develop and strengthen in this direction, at no distant day perhaps we, the people of the New World, changing characters and ceasing to be actors, may become the tranquil spectators of the social and political convulsions of Europe.

The Minister of the Interior, with the view of enlarging and regulating our facilities of intercourse, both external and internal, holds under advisement various proposals of contracts with steamship companies, having already concluded a contract with parties in Tabasco for regular lines of communication between the gulf ports and in the interest of the coasting-trade.

I do not doubt that you will hear with especial interest the report of the Department of Public Works, as the subject of internal improvements and their decisive influence on the future prosperity of the country is now the absorbing idea of the Mexican people as well as of its rulers. On the 10th of March last the submarine cable was completed connecting the ports of Vera Cruz and Tampico with Brownsville, Texas, thus putting our republic in direct telegraphic communication with the rest of the civilized world. Within the present month a telegraphic line between Sinavla and Guadalupe de los Reyes will be finished, and that uniting Culiacan with Alamos commenced. A branch line from Cuernavaca to Villa Lerdo in Durango is finished, and the line from Caxaca to Tehuantepec prolonged to Iuchatan to unite with that

from the State of Chiapas, which has already reached Truxtla Gutierrez. Contracts have been made for the construction of a line from Tacotalpa to San Christobal, which will unite Tabasco and Chiapas; and the necessary materials have already been ordered from abroad to construct a line which is to unite Yucatan and Campeachy with Tabasco, and, eventually, with Vera Cruz. Several important lines will also be commenced very shortly in the frontier States of the north. The Morelos Railroad Company has now constructed about sixty-three miles of track, which will be extended to Cuantla in a short time. The Government has accepted two and a half miles of the branch which is to unite this road with that from Mexico city to Vera Cruz. The State government of Guerrero has transferred to a company the concession of a railroad from Acapulco to this capital, and in the month of May next the work will be commenced in Acapulco. The different lines which are to unite Vera Cruz and Jalapa, Jalapa and San Andrés, Puebla and San Marcos, are also in course of construction. The Vera Cruz and Alvarado Company have also completed seven and a half miles of track. The line from Mérida to Progreso in Yucatan is about being finished; of the line from Mérida to Peto, the Government has accepted about nine miles; and work has been begun on the other line which is to connect that capital with Calkini. The railroad of Hidalgo has in operation about seventeen miles, and that leading from Puebla to Izriar has a branch extending to Cholula. Work is actively progressing on the line from Puebla to San Martin Texmelucan, as well as on the projected line from Matamoros to Monterey. The Central Railroad Company has laid its track nearly to Tula, widened the track from Celaya to Irapuato, and is pushing the work of reconnoitring and surveying on the lines from San Luis Potosi to Tampico, and from Chilmalma to Paso del Norte. The Mexican Construction Company is making its embankments from this city to Toluca, and has commenced the construction of the line of Pátzcuaro, Morelia, and Salamanca, as likewise that from Zacatecas to San Luis Potosi—all of which privileges it has obtained by transfer. The same company has exhibited its plans for over thirty miles of the route from Manzanillo to the interior, and has actually commenced reconnoitring the route from Nuevo Laredo to Monterey. Twelve and a half miles of completed track, constructed by the Sonora Company, and beginning at Guaymas, have been accepted; and, according to official information now in possession of the Executive, the road will have reached Hermosillo before the rainy season commences. The Tehuantepec Company, taking advantage of the dry-season, has pushed its work with energy, drawing their laborers from the "Tierra Templada," and pushing their reconnoitring parties southward across the isthmus for the purpose of ascertaining the most convenient terminus on the Pacific. The Executive submits to the enlightened consideration of Congress the contract which he has entered into with Mr. James B. Eads for the construction of a ship-railway across the Isthmus of Tehuantepec. It is with peculiar satisfaction that I feel justified in announcing to Congress the favorable condition of the public Treasury, and the fact that it is evidently and progressively improving. From official data we are assured that during the first six months of the present fiscal year the Federal income, when compared with six months of the preceding year, exhibits an increase of more than \$400,000. It may be safely presumed that the second half year will show a proportionate increase, and in this case the total public income will reach \$21,000,000* per annum, while in former years, with the exception of the last, it fluctuated between \$17,000,000 and \$19,000,000. The state of the Treasury, it is to be hoped, may be still further improved by the labors of the various commissions which have been appointed for the purpose of suggesting a plan of assessment in

* Compare statement on page 567.

the Federal District—of amending as far as possible the tariff now in force, and consulting generally as to the easiest method of augmenting the public revenues and regulating the collection of the Federal taxes. The estimates of receipts and expenditures of the Treasury for the incoming fiscal year were laid before Congress on the day designated by the Constitution; and I can assure you that not only the Executive but the whole country will view with approbation the prompt and zealous action of both Chambers in giving this budget that timely attention which our fundamental law requires for it, without proposing to interfere with other important business.

Our infant navy has been increased by the addition of one vessel, bearing the honored name of Benito Juarez, and attached to the Pacific service.

Since the signing of the convention referred to in the article "Guatemala" in our volume for 1879, events have transpired of a nature to interrupt the cordial relations hitherto existing between Mexico and Guatemala. The estrangement, at first the outgrowth of misunderstandings concerning the question of boundaries long pending between the two republics, has been confirmed by the appeal on the part of Guatemala for the friendly intervention of the United States, which latter step provoked the publication by the Mexican Minister of Foreign Relations, Señor Don Ignacio Mariscal, of a pamphlet entitled "Difficulties between Mexico and Guatemala; Proposed Intervention of the United States; some Official Documents," and containing, besides, ex-Secretary Blaine's correspondence on the subject to Mr. Morgan, United States Minister to Mexico, a recapitulation of the more important phases of the question from colonial times to the present day. Here follow a transcript of Mr. Blaine's letter, and an extract of Señor Mariscal's exposition of facts:

MR. BLAINE TO MR. MORGAN.

DEPARTMENT OF STATE, WASHINGTON, {
June 16, 1881. }

PHILIP H. MORGAN, *Esq.*, etc., etc.

SIR: In my instructions of the 1st instant and today, I have so clearly amplified the spirit of goodwill which animates this Government toward that of Mexico, that I am sure no room for doubt can remain as to the sincerity of our friendship. Believing that this friendship and the frankness which has always distinguished the policy of this country toward its neighbors warrant the tender of amicable counsel when occasion therefor shall appear, and deeming such counsel due to our recognized impartiality, and to the position of the United States as the founder and, in some sense, the guarantor and guardian of republican principles on the American Continent, it seems proper now to instruct you touching a point upon which we feel some natural concern. I refer to the question of boundaries and territorial jurisdiction pending between Mexico and Guatemala. In the time of the empire the forces of Iturbide overran a large part of the territory of what now constitutes Central America, which had then recently thrown off the Spanish domination. The changing fortunes of war resulted in the withdrawal of Mexican forces from most of that region, except the important provinces of Soconusco and Chiapas, which remained under their control. Since that time the boundaries between the two countries have never been adjusted upon a satisfactory basis. Mexico, become a republic, did not forego claims based on the imperial policy of conquest and absorption; while Guatemala, resisting further progress of Mexican arms, and disputing

step by step the conquest already made, has never been able to come to a decision with her more powerful neighbor concerning the relative extension of their jurisdiction in the disputed strip of territory lying between the Gulf of Tehuantepec and the peninsula of Yucatan. Under these circumstances the Government of Guatemala has made a formal application to the President of the United States to lend his good offices toward the restoration of a better state of feeling between the two republics. This application is made in frank and conciliatory terms, as to the natural protector of the rights and national integrity of the republican forms of government existing so near our shores, and to which we are bound by so many ties of history and of material interest. This Government can do no less than give friendly and considerate heed to the representations of Guatemala, even as it would be glad to do were the appeal made by Mexico in the interest of justice and a better understanding. The events, fresh in the memory of the living generation of Mexicans, when the moral and material support of the United States, although then engaged in a desperate domestic struggle, was freely lent to avert the danger with which a foreign empire threatened the national life of the Mexican Republic, afford a gratifying proof of the purity of motives and benevolence of disposition with which the United States regard all that concerns the welfare and existence of its sister republics of the continent. It is alleged, on behalf of Guatemala, that diplomatic efforts to come to a better understanding with Mexico have proved unavailing; that under a partial and preliminary accord, looking to the ascertainment of the limits in dispute, the Guatemalan surveying parties sent out to study the land, with a view to proposing a basis of definitive settlement, have been imprisoned by the Mexican authorities; that Guatemalan agents for the taking of a census of the inhabitants of the territory in question have been dealt with in like summary manner; and, in fine, that the Government of Mexico has slowly but steadily encroached upon the bordering country heretofore held by Guatemala, substituting the local authorities of Mexico for those already in possession, and so widening the area in contention. It is not the present province of the Government of the United States to express an opinion as to the extent of either the Guatemalan or the Mexican claim to this region. It is not a self-constituted arbitrator of the destinies of either country, or of both, in this matter. It is simply the impartial friend of both, ready to tender frank and earnest counsel touching anything which may menace the peace and prosperity of its neighbors. It is, above all, anxious to do any and every thing which will tend to make stronger the natural union of the republics of the continent in the face of the tendencies of other and distant forms of government to influence the internal affairs of Spanish America. It is especially anxious, in the pursuance of this great policy, to see the Central American republics more securely united than they have been in the past, in protection of their common interests, which interests are, in the outward relations, identical in principle with those of Mexico and of the United States. It feels that everything which may lessen the goodwill and harmony so much to be desired between the Spanish republics of the Isthmus must in the end disastrously affect their mutual well-being. The responsibility for the maintenance of this common attitude of united strength is, in the President's conception, shared by all, and rests no less upon the strong states than upon the weak. Without, therefore, in any way prejudging the contention between Mexico and Guatemala, but acting as the unbiased counselor of both, the President deems it his duty to set before the Government of Mexico his conviction of the danger which would ensue to the principles which Mexico has so signally and successfully defended in the past should disrespect be shown to the boundaries which separate her from her weaker neighbors, or should the authority of force be resorted to in the establishment of

rights over territory which they claim, without the conceded justification of her just title thereto. And especially would the President regard as an unfriendly act toward the cherished plan of upbuilding strong republican governments in Spanish America, if Mexico, whose power and generosity should be alike signal in such a case, shall seek or permit any misunderstanding with Guatemala when the path toward a pacific avoidance of trouble is at once so easy and so imperative an international duty. You are directed to seek an interview with Señor Mariscal, in which to possess him with the purport of this instruction. In doing so, your judgment and discretion may have full scope to avoid any misunderstanding on his part of the spirit of friendly counsel which prompts the President's course. Should Señor Mariscal evince a disposition to become more intimately acquainted with the President's views after your verbal exposition thereof, you are at liberty to read this dispatch to him, and, should he so desire, to give him a copy.

I am, sir, your obedient servant,

(Signed) JAMES G. BLAINE.

EXTRACT OF SEÑOR MARISCAL'S EXPOSITION.

... The complaints of the Guatemalans are not sincere, and the government of General Barrios knew very well how different are the facts of the case from the statements made to the Government at Washington. Even before consulting the President, he could assure Mr. Morgan that the good offices of his government were received with high esteem by the Government of Mexico. There is as yet, he added, no motive whatever for the fear that the latter will appeal to force to resolve the boundary question with Guatemala, which for many years has been under pacific and patient discussion, the Mexican Government having always been the promoter of the discussion, and of its solution by friendly measures. The recent events of which the Guatemalan Government complained had been the subject of discussions in which the arguments of Mexico had not been answered, the last notes of the Mexican Government having usually been left without reply. The tactics of the Government of Guatemala had consisted in appealing, for lack of reasons, to delays and evasions. The present state of the question is, that the survey of the frontier by commissions of engineers appointed by the two governments is still pending. The appointment of these commissions was made by virtue of a convention promoted by Mexico, in which was stipulated the suspension of negotiations upon boundaries until the said frontier could be surveyed, and certain points which formed the basis of discussion could be astronomically determined.

The Mexican Government positively desires to bring the question of boundary to a just and pacific conclusion, and it is not possible at present even to say whether this question, at least in part, may become a proper one for an arbitration. As to the perfect title of Mexico to the State of Chiapas, including the department or district of Soconusco, of which it has been in possession for so many years, the Mexican Government has several times declared that it does not and can not decorously admit any question. What it has consented to discuss among the claims of Guatemala, and for which it has been surveying and mapping out the frontier, is the matter of the boundaries of Chiapas and Soconusco, on the Guatemala side. But it may readily be seen that this can not yet give occasion to an arbitration, since the data have not yet been obtained which have been thought indispensable for the decision of the points at issue. Mexico is very far from absolutely refusing arbitration, but does not think it possible at present, for the reasons just mentioned, and reserves her decision as to accepting it in the future, concerning certain points on which it might be useful.

Mexico can never forget what was witnessed by the present generation of Mexicans as referred to by the Hon. Mr. Blaine—i. e., that the United States lent

their generous moral support, when, being invaded by a foreign army, her people struggled alone and without resources from abroad against a European monarch and his instrument in this country, who was supported by certain misguided elements at home. Nor will she forget that the sentiment of the American people during that crisis clearly showed that, if the United States had not been engaged in a civil war of vast proportions, the support given to Mexico would have been more than moral, and would have sufficed to terminate the struggle some years earlier.

In the same note (Secretary Blaine's) it is stated that the forces of the Emperor Iturbide having occupied a large portion of the territory of Central America, the fortune of war forced them to abandon all that territory except Soconusco and Chiapas, and that Mexico, after becoming a republic, did not desist from reclamations founded upon the imperial policy of absorption and conquest. In this there are some historical errors, and especially one which is due, as already stated, to one-sided allegations or to the fact that, unfortunately, the history of Mexico is not well known. Even during the empire of Iturbide it was not conquest but the free-will of the inhabitants of Chiapas and Soconusco which determined their annexation to Mexico, as well as that of all the provinces of Central America except Salvador. In the use of the same liberty, they afterward separated from this country and formed with Guatemala a republic; always excepting Chiapas and Soconusco, which, after Mexico became a republic, renewed their determination to remain incorporated therewith. As it is not possible here to recount the history of what occurred, it will suffice to mention that, on account of the ever-renewed claims of Guatemala, there have been published very sincere and carefully studied treatises with the object of proving the right which Mexico originally acquired to this portion of her present territory, basing it, not upon conquest, but upon the will of the inhabitants, the proofs of which may be found in unquestionable documents which have been published. Among these publications are those respectively made by Don Manuel Larrainzar and Don Matías Romero, persons well acquainted with the facts concerning Chiapas and Soconusco, since the former is a native of that State and the latter has resided in Soconusco, where he had to abandon his property, which was devastated by Guatemalan invaders. But, without alluding to the contents of the said publications, it will be understood how inaccurate are the attacks made upon the right of Mexico to these regions which form a State of the Union, by simply examining the long and weighty note which Señor Lafragua, as Minister of Foreign Affairs, addressed to the Minister of Guatemala in this capital, under date of October 9, 1875, adjoining to it several documents of a conclusive tenor. This note, which has been circulated in a printed form, and in which the original rights of Mexico to Soconusco and Chiapas, now placed beyond doubt by a possession of more than thirty and fifty years respectively, are victoriously illustrated and proved; this note, which should have given rise to a serious discussion, has remained up to the present time unanswered, as the Government of Guatemala habitually leaves those which it can not answer. The brief summary of that extended note will show by itself that the titles of Mexico have not consisted of absorption and conquest, as the Hon. Mr. Blaine has been led to believe by means of calumnies against this republic. The closing words of that document are as follows: "Summing up the argument of the present note, the following points have been demonstrated: 1. Chiapas was a province similar to the others which formed the captaincy-general of Guatemala. 2. Chiapas, on the 3d day of September, 1821, freely separated from Guatemala and united with Mexico. 3. Chiapas, on the 12th day of September, 1824, again joined the United States of Mexico by the free choice of a majority of her inhabitants (it having been previously

shown that the voting took place without the presence of Mexican forces in any part of the State, and that there was a large majority in favor of Mexico). 4. Soconusco, in 1821, was a *partido* of the Intendency of Chiapas, and as such united with the Mexican Empire. 5. Soconusco, in 1821, voted freely in favor of union with Mexico on the 3d day of May. 6. The act drawn up at Tapachula on the 24th day of July, 1824, was a revolutionary and illegal procedure. 7. Central America recognized the Supreme Junta of Chiapas, and agreed to respect its decision," etc. Without copying the entire summary, the preceding will convince the reader that the Mexican Government has never based its original rights to Chiapas and Soconusco upon conquest. As to recent events, the points of complaint against Mexico presented by the Government of Guatemala to the Government of the United States are four in number:

1. That the diplomatic efforts made to reach a settlement with Mexico have been fruitless.

2. That there exists a preliminary and partial agreement for the purpose of ascertaining what are the true limits; and that the Guatemalan commissions of exploration sent to survey the region in order to prepare the basis for a definitive settlement were imprisoned by the Mexican authorities.

3. That the agents of Guatemala charged to take a census of the territory in question were treated in the same manner.

4. That the Mexican Government has cautiously but constantly invaded the frontier district which had heretofore been in the possession of Guatemala, replacing the local authorities which were there existing by those of Mexico, thus augmenting the area of the disputed territory.

It will be convenient to reply to these points in the same order:

1. Diplomatic efforts for the settlement of limits with Guatemala have always and exclusively been initiated by Mexico. In 1832 the Mexican Government sent Don Manuel Diez de Bonilla as Envoy and Minister Plenipotentiary, and in 1853 Don Juan N. de Pereda with the same character, without obtaining any result. Señor Pereda remained in Guatemala until the year 1853. In the various interviews which he had with Don Manuel Pavon, Minister of Foreign Affairs of that republic, that gentleman constantly refused to celebrate a treaty of limits, and said that Guatemala proposed, in the pending negotiations with Mexico, to simply recognize the *statu quo* of the frontier between the two countries without any alteration. Señor Pereda had to suspend his official relations with the Government of Guatemala on account of the refusal of the latter to treat concerning limits, and because the said Government, in a discourteous and offensive manner, refused to grant the internment of several *emigrados* from Mexico, who were conspiring against the peace of this republic. The question of limits was not again discussed until October, 1873, when Señor Lafragua, Minister of Foreign Affairs, addressed a note to Señor García Granados, *chargé d'affaires* of Guatemala, indicating the necessity that the question should be concluded. For that purpose he invited the Government of Guatemala to appoint a plenipotentiary to open the negotiations in this capital. Señor Uriarte, the new Minister of Guatemala, replied after some months, in July, 1874, after Señor Lafragua had asked him by note whether the said invitation was accepted, that he was provided with full power to enter upon negotiations. On the 21st of August Señor Uriarte presented a memorandum to serve as a basis for discussion. After various conferences, Señor Lafragua replied to the memorandum, by a note dated October 9, 1875, with which he inclosed a draft of a treaty of limits between the two republics. This important note, already alluded to, has remained without reply, as has also been previously remarked. In July, 1877, negotiations were resumed between Señor Vallarta, as Plenipotentiary of Mexico, and Señor Uriarte, Minis-

ter of Guatemala. The result was the convention of December 7th of that year.

2. The note of Mr. Blaine alludes to this convention. By it, as already indicated, there was created a mixed commission of Mexican and Guatemalan engineers, charged with making a survey, forming plans, and fixing astronomically certain points in order to advance the knowledge of the question at issue, and afterward continue the discussion upon the limits of the two republics. In Article X it was stipulated that, during the suspension of negotiations upon limits, the high contracting powers would religiously respect and cause to be respected the actual possession, not raising or allowing to be raised any question relative to boundary-marks, and preventing every act of hostility on the part either of the authorities or citizens of the two republics. The commissioners met at Tapachula, November 18, 1878, and began their operations. On the 26th of January, 1880, three engineers of the Guatemalan commission appeared in the vicinity of Cuilco Viejo, a village of Soconusco, accompanied by a number of Indians, and placed there a cross. The local authorities believed that this act was intended to advance the boundary-post of Pinabete, recognized as the limit between the two republics, and situated eight leagues farther north, as had been done years before by the inhabitants of Tacaná, a village belonging to Guatemala. Under this belief they questioned the said engineers, and not receiving satisfactory explanations of the act, nor being shown any document proving their character as commissioners, the said authorities arrested them and sent them to Tapachula. There they were immediately set at liberty by the political chief, who gave them the fullest reparations. This is the only case of imprisonment of engineers which Guatemala can cite, and as to this incident that Government appeared to be satisfied. The Mexican Government then believed that the local authorities had acted erroneously, but later acts of the Government of Guatemala show that it had really been intended to change the landmarks.

3. A motive similar to the foregoing occasioned the arrest of the agents of Guatemala, to which allusion has been made. In December, 1880, a commission, composed of the *alcalde* of Tacaná and four other persons, proceeded to register the inhabitants of some *rancherías*, which, although a league distant from the Mexican village of Cuilco Viejo, form an integral part thereof. They went—not, as alleged, to take a census in disputed territory, but—to exercise acts of jurisdiction in the place, in order afterward to adduce them as a proof of possession by Guatemala. It is to be noted that the inhabitants of Tacaná, whose *alcalde* is the present subject of discussion, were the same who at a former time advanced the boundary-post of Pinabete, and that the *rancherías* in question would have been on Guatemalan territory if the said landmark had remained where it was then placed, on which spot the cross was afterward raised by the Guatemalan engineers. The said commissioners, who thus violated the convention binding them to respect the actual possession, were therefore justly arrested, and turned over to the district judge, in order that he might act in accordance with the laws of Mexico. The Minister of Guatemala complained of this act, alleging that those *rancherías* belonged and had always belonged to his country. In the reply made to him, under date of the 27th of January last, the inaccuracy of his assertions was proved by showing that those *rancherías* were within the provisional limits of Mexico, and that they belong to this republic, even according to the official map of Guatemala. In refuting the charges made by Señor Herrera in his note, against the Mexican authorities, it was shown by recent facts that the abuses have been on the part of the Guatemalan authorities. As Señor Herrera based the title of his country to the said points on the fact that there were certain assistant *alcaldes* appointed by the authority at Sibinal, a village of Guatemala, the un-

dersigned showed that the appointment had been first made after the signature of the convention which bound the two countries to respect the *statu quo* in regard to limits, and that consequently it only proved that Guatemala had violated her engagement. Señor Herrera confined himself to stating that he would inform his government of this note, and it has thus far remained without reply.

4. The accusations against Mexico under this fourth heading—i. e., a general charge of continual Mexican invasions of Guatemalan territory—are not only entirely false, but inconceivably audacious. There exists a plan of Soconusco made by Don José E. Ibarra, carefully formed, as is shown by the geographical and statistical notices of that department given in the margin. On it are marked in red ink the ancient limits, and in green those which seem to be recognized in recent times. The space between the two lines marks the advances made by Guatemala, and at the end of the marginal notices the dates are specified when they were effected. These invasions have been continued recently; the archives of the Department of Foreign Affairs are full of data upon those which have occurred since 1870. Without being, perhaps, among the most notable, one of these invasions was for the purpose of destroying the property of Don Matias Romero, as already indicated. Señor Romero, who is well known in Washington, where he represented Mexico for several years, could not, with all his characteristic moderation and prudence, prevent Guatemalan Indians, by order of a prefect of that nation, from invading his lands within the Mexican territory, destroying his property, carrying away prisoner one of his employés, and maltreating others. In November, 1875, a complaint was presented to the Government of Guatemala for this act, but hitherto no reply has been made. On the other hand, that government has imputed to Señor Romero conflagrations and other crimes within the territory of Guatemala—charges entirely improbable, and which that gentleman has, moreover, refuted at length. In the same month and year the engineer Don Alejandro Prieto, secretary of the Mexican legation in Guatemala, made a survey of the frontier by direction of Señor Garza, then Mexican Minister to that Government. He made the journey and the survey in company with General Barrios, President of Guatemala, as was stated by Señor Garza in a letter addressed to Señor Lafragua, and by the government of Chiapas in a dispatch dated November 26, 1875. From this visit originated the sketch-map drawn up by Prieto, which may be found in this ministry, and which, as well from having been prepared under the inspection of President Barrios as for other reasons, can not be an object of suspicion to Guatemala. Upon it is marked the line which is the boundary in fact, and on it are also marked the points in dispute. To this line, then, must be referred the *statu quo* stipulated in the Convention of 1877. Now, the very notes of the Minister of Guatemala prove that his government, far from having respected it, has violated it at Tonintaná, at Las Chicharras, Cuileo Viejo, and other points. That Government has gone so far as to defend the misdeeds of the Alcalde Meoño, who attempted to assassinate a Mexican surveyor, and burned ranchos within the territory of Mexico. It has done more. In December of last year it sent, or permitted to be sent, a force under the orders of the Prefect of San Marcos (a department of Guatemala), which invaded our territory and destroyed the landmark of Pinabete, the same which was demolished by the residents of Tacaná, and which was reconstructed shortly afterward. The said prefect then hoisted the flag of Guatemala precisely upon the cross so mysteriously erected by the Guatemalan engineers near Cuileo Viejo. Complaint being made at Guatemala of these acts, that Government refused to give explanations to our minister, under the pretext that the subject had to be treated in Mexico, because Señor Loacza had no instructions to receive them. The Minister of Foreign

Affairs, Señor Montúfar, being pressed by our representative, who sent him a copy of a note from the undersigned manifesting surprise at such conduct, replied that the ground where these events took place belonged to Guatemala, without giving any reasons for such allegation, and overlooking the fact that the undersigned, in his note of the 27th of January last, to which no reply has been given, had demonstrated the contrary. Meanwhile the term of the Convention of December 7, 1877, had expired on December 31, 1879, without the scientific commissions having concluded their labors. The Mexican Government proposed to that of Guatemala that the said convention should be renewed for a term long enough to attain the object desired, and ordered its engineers to remain on the frontier, as in fact they have remained, notwithstanding that the Guatemalan engineers were withdrawn by their government without the formality of advising that of Mexico. The President of Guatemala personally informed our minister that he was willing to renew the convention, and that instructions to that end had been sent to Señor Herrera, Minister of Guatemala in Mexico. Señor Herrera, however, considered himself for several months without sufficient instructions to negotiate, alleging that those received were not sufficiently explicit. It was only recently (July 11th) that Señor Herrera, having come to speak with the undersigned about the friendly step taken by the Government of the United States, and the observation having been made to him that the Government of Guatemala had not yet sent him the instructions offered, made known that he had received them in the desired form. This conduct of his government, not at all sincere, and seemingly incomprehensible, is now explained by the step which the President of Guatemala, through his representative, has taken toward the Government of the United States. President Barrios wished, as may be inferred from the facts, to gain time while he applied to a friendly government complaining of injuries supposed to have been committed by the Government of Mexico, whose conduct he depicted with false colors while soliciting the interposition of good offices. In this application, he apparently omitted, however, to state that, at the request of Mexico, the renewal of the convention for the survey of the frontier was under advisement, a survey absolutely necessary, as declared by both governments, in order to fix the international limits, whether by diplomatic negotiations or other pacific means. The omissions and inexactitudes of the government of General Barrios, in its statements to the President of the United States, as well as its other acts concerning the question of limits with Mexico, show its policy upon this subject to be entirely lacking in sincerity and frankness. The facts briefly noted in this memorandum, and others which can not here be mentioned, authorize the suspicion that the said government, in addressing the President of the United States, has not really desired, as was pretended, to obtain the decision of an arbitrator upon the question of limits. It is very certain that it can not be ignorant of the impossibility for Mexico to admit any discussion of the rights she has to Chiapas and Soconusco, forming as they have done for many years a State of the Union, an integral part of the republic, and that it also understands how impossible it is to fix the limits between this State and Guatemala, before surveying the region in dispute, whoever may be the arbitrator charged to render such decision. The object, then, in pretending to promote an arbitration, can not be other than to gain time, as on former occasions, to continue the partial invasions and enervate the action of the Mexican Government in the simple defense of the national territory. The undersigned, in order to place upon record the facts of the interview with the Hon. Mr. Morgan, and the observations to which the note of the Hon. Mr. Blaine give occasion, has drawn up the present memorandum.

(Signed)

IGNACIO MARISCAL.

Mexico, July 25, 1881.

MICHIGAN. The Legislature convened in regular triennial session on January 5th, and adjourned, *sine die*, June 11th, the session being the longest ever held in the State. Number of general acts passed, 290; local acts, 432; joint resolutions, 34; concurrent resolutions, 9. The joint resolutions included one submitting the question of a general revision of the Constitution of the State to the electors, to be voted upon at the general election to be held November 7, 1882, pursuant to section 2 of Article XX of the Constitution; also four amendments of the Constitution, as follows:

1. Amending section 12, Article VI, so as to empower the Supreme Court to appoint its own clerk.

2. Amending section 6, Article VI, to authorize the Legislature to provide for the election of additional circuit judges in the judicial circuit in which the city of Detroit may be situated, and authorizing the board of supervisors of the county of Wayne to vote an increase of salaries to the judges of such circuit, to be paid from the Treasury of Wayne County.

3. Amending section 1, Article IX, so as to increase the salaries of circuit judges from \$1,500 a year to \$2,500.

4. Amending section 10, Article X, to authorize the Legislature to provide, by general law, for a board of county auditors in each county, with "exclusive power to prescribe and fix the compensation for all services rendered for, and to adjust all claims against, their respective counties," subject to the restriction "that no such board shall be established in any county, unless the board of supervisors of such county shall so direct by a majority vote of all the members-elect."

The first two amendments were voted upon and adopted at the election held April 4, 1881; the other two amendments will be voted upon November 7, 1882.

Liberal appropriations were made in aid of the several educational and other State institutions, including \$400,000 for an additional asylum for the insane (since located at Traverse City in Traverse County); \$100,000 for a new library-building at the university; \$33,775 for a laboratory, library, and other buildings, at the Agricultural College; \$25,000 for a new building, for a training and practice school, at the State Normal School; \$10,000 for a lecture hall at the Reform School for Boys; \$38,000 for new buildings at the State Prison; \$52,900 for new buildings, permanent improvements, land, etc., at the Michigan Asylum for the Insane, Kalamazoo; \$75,000 for two new wings at the Eastern Asylum for the Insane, Pontiac, and \$15,000 for working capital for the same asylum; \$87,500 for two cottages, chapel, and school-building, gas-house, furniture, and permanent improvements at the State Reform School for girls; and \$10,000 for the purchase of a building at Lansing for the use of the State School for the Blind.

The laws relating to public instruction and

primary schools were revised and consolidated, and numerous fragmentary, crude, and conflicting laws repealed. The principal change from prior statutes relates to the examination of teachers. In 1875 the Legislature abolished the office of county superintendent of schools (the incumbent of which office had a few years previous succeeded to a portion of the duties of the township school inspectors), and gave the examination and licensing of teachers to a township superintendent of schools, to be elected at the regular township election. This change having proved unsatisfactory, fruitful only of a large crop of incompetent (and even illiterate) school-examiners, the act under notice abolished that office, and created a county board of examiners, consisting of three members. The chairmen of the several township boards of school inspectors—officials having in charge the formation of school districts and some administrative duties—were to meet on the first Tuesday in August, 1881, at the office of the county clerk in each county, and elect three school-examiners, one each for one, two, and three years, and annually thereafter one for the term of three years. The board is to hold at least two public examinations in each year, is to examine all applicants, and grant certificates to teachers in such form as the Superintendent of Public Instruction shall provide, "but no certificate shall be granted to any person who shall not pass a satisfactory examination in orthography, reading, writing, grammar, geography, arithmetic, and the theory and art of teaching, and, after the year 1881, history of the United States and civil government." Three grades of certificates are to be issued: the first grade to those who have taught at least one year with ability and success, to be good for three years and valid throughout the county; the second grade to teachers who have taught six months, good in the county for two years; the third grade a one-year license, but covering the same territory. Certificates may be suspended or revoked for cause. The secretary of the board is the chief officer of the board. Other provisions of the law are designed to secure a better grade of schools, as well as teachers, with more systematic and uniform supervision.

The highway laws were revised and consolidated, also the drainage laws. A new provision in the highway act substitutes a money-tax, to be expended by the commissioner, in lieu of the old system of work done by the property-holder. The change is to be made by a vote by ballot, at an annual or special township meeting, on the written demand of twelve or more freeholders. The amount of money-tax is limited to one half of one per cent on the assessed valuation. Another provision permits twenty-five per cent of any person's highway tax to be paid by setting shade-trees along the highway, and the commissioner is required to see that a given number of shade-trees are planted in each year. Provision is also made

for erecting and maintaining at least one watering-trough in each road-district.

The liquor-tax law was so amended as to largely increase the taxes on the manufacture and sale of both distilled and malt liquors. The taxes prescribed are: Distilled liquors—manufacturing, \$500 a year; selling at wholesale or at wholesale and retail, \$500; selling at retail, \$300. Brewed or malt liquors—manufacturing, \$65 for 1,500 barrels, and \$25 for each additional 1,000 barrels; selling at wholesale, or at wholesale and retail, \$200. The stringency of the provisions of the tax law and of the police laws was also increased. In the same line of legislation is “an act for the protection of children,” which prohibits the employment of children under sixteen years old by showmen of various grades; their admission to bar-rooms, saloons, or other places where liquors of any kind are sold; the admission to or maintenance in any county poor-house of any child admissible to the State public schools; the giving of obscene books, pamphlets, prints, papers, police reports, etc., to any minor; employing minors to distribute such prohibited printed matter, or the exhibition on any public street or highway in view of passing children of obscene prints, pictures, or prohibited articles.

The game laws were amended and made more stringent. At least one section of Act No. 151 is of interest to non-residents of the State. Section 2 reads: “No person, corporation, or company, shall kill, or expose for sale, or have in possession, except alive, at any time, any deer, ruffed grouse, colin or quail, pinnated grouse, nor wild turkey, or any part of the carcass of the same, with the intention of sending or transporting, or having the same sent or transported, beyond the limits of this State.” The penalty for the violation of this provision is fifty dollars’ fine for each offense, or thirty days in jail if the fine is not paid.

Act No. 18 is in the interest of women the possessions of whose husbands consist largely in personal property, and is entitled “An act to restrict the disposition of personal property by last will and testament.” The first restrictive clause reads: “If the testator shall leave surviving him a wife, the testamentary disposition shall be subject to the election of such wife, to take any interest that may be given to her, by the testator in his last will and testament; or, in lieu thereof, to take the sum or share that would have passed to her, under the statute of distributions, had the testator died intestate, until the sum shall amount to \$5,000, and of the residue of the estate one half the sum or share that would have passed to her, under the statute of distributions, had the testator died intestate; and, in case no provision shall be made for her in said will, she shall be entitled to the election aforesaid.”

The statute under which persons on trial charged with crime have been permitted to make statements to the jury, not under oath,

was amended by Act No. 245, which provides that a defendant in a criminal case may be sworn as a witness at his own request. When sworn, he is to be subjected to cross-examination, the same as any other witness. His neglect to testify shall not create any presumption against him, nor be commented upon before the jury. Former conviction may be shown for the purpose of affecting his credibility.

By the provisions of Act No. 187, all that is necessary to constitute a written instrument a full warrantee deed of conveyance, is that it shall be worded in substance as follows: “A. B. conveys and warrants to C. D.” (here describe the premises) “for the sum of” (here insert the consideration), such conveyance to be dated and duly signed, sealed, and acknowledged. It shall not be necessary to use the words “heirs and assigns of the grantee” to create in the grantee an estate of inheritance. If any lesser estate is to be conveyed, it must be so expressed. A similar form is provided for a quit-claim deed, for a mortgage, and for the acknowledgment.

Provision was made for turning over the bodies of persons dying in the poor-houses and prisons of the State, not claimed by relatives, to the demonstrator of anatomy in the University of Michigan, for the use of the medical schools of the State in the advancement of anatomical science. Under the operations of this law, the provisions of which are well guarded, grave-robberies in the State have substantially ceased. Provision was also made “for the medical and surgical treatment of dependent children at the hospital of the Michigan University,” including board, lodging, nursing, and other proper care.

Several amendatory railroad laws were passed; also important amendments made to the insurance laws; a commission established to “provide for the adoption and use of a standard form of fire-insurance policy; an act passed for the incorporation of plate-glass insurance companies; one to prevent the soliciting or issuing of unauthorized fire or inland marine insurance policies in this State; and one for a millers’ insurance company. Acts were passed to prevent the adulteration of food, to prevent foul brood in bees, to prevent the spread of yellows in peaches, and to enlarge the powers of boards of health in villages and townships. A commission was provided to revise the tax laws of the State, and the Governor appointed as such commission Messrs. John Moore, E. O. Grosvenor, William Chamberlain, C. A. Kent, and H. H. Hatch. The commission has completed the labor assigned to it, and the several bills prepared will be submitted to the Legislature convened in special session on the 23d of February, 1882.

The three most hotly contested measures considered during the session, or for many sessions, were: 1. A bill providing for the purchase of a sufficient number of copies of a compilation of the general laws of the State, made

by Andrew Howell, to supply State and local officials. The bill was opposed as a violation of section 15 of Article XVIII of the Constitution, which prescribes the method to be pursued in compiling the laws; the appointment of a compiler by the two Houses, in joint convention; the approval of his work by two commissioners appointed by the Governor; and the printing "in such manner as shall be prescribed by law." The friends of the bill claimed that the State could purchase a compilation as it could any other book or books; that the compilation in question was a superior work, and that, therefore, no reprint of the general laws was necessary within the meaning of the cited section. The bill passed the Senate without discussion, and almost unanimously. The opposition in the House was severe and prolonged, but the bill was passed by a small majority. It was vetoed by the Governor as unconstitutional, though the Attorney-General of the State and many of the leading members of the bar had given written opinions holding it constitutional. The Senate promptly passed it over the veto; but the House laid the bill and veto-message on the table. Another bill was prepared, with a view to overcome the Governor's objections to some of the details, passed by both Houses, and again vetoed. So the vexed question will come up again at the next regular session.

2. A bill to confirm the action of the board of control of railroad lands, conferring certain lands, rights, franchises, powers, and privileges upon the Ontonagon and Brulé River Railroad Company. The lands in question were granted by Congress in 1856, to aid in the construction of a railroad from Ontonagon to the Wisconsin State line, and conferred by the State in 1857 upon the Ontonagon and State-Line Railroad Company. The time named in the original grant for the construction of the road expired many years ago, but Congress had taken no steps to declare the grant forfeited. The opponents of the bill held that the grant was forfeited years ago by non-compliance with its terms; that *bona fide* purchasers of large tracts of lands had acquired interests that could not be legislated away; and that homesteaders on the lands would be wronged if exception was not made in the bill in their favor. The Lake Superior Canal and Iron Company, which had located valuable lands within the territory covered by the railroad grant, under the canal grant to which it had succeeded, joined persistently in the fight against the bill. The friends of the bill contended that no forfeiture could be had without the action of Congress, and cited decisions of the United States and State courts in defense of that position; that the sales made and patents issued were without warrant of law, the title having been all the time in the State; and that there were no *bona fide* homesteaders on the lands. The discussion before the committee and also in the sessions were prolonged and heated, and charges of bribery and corruption were exchanged be-

tween the contestants. The bill finally passed the House by a vote of 69 to 23—two more than the necessary two thirds; and the Senate by a vote of 23 to 8—a single spare vote.* The bill was approved by the Governor, and the company named has already constructed and put in operation twenty miles of road. Bills are now pending in Congress to declare the grant, with other old railroad grants, forfeited.

3. A bill to authorize the incorporation of companies for the construction of union depots. Though a general act, it had a special purpose—the erection of a union depot at Detroit. The bill, as at first presented, met decided opposition in certain railroad quarters, but a compromise was finally agreed upon, and an amended bill was passed into a law.

The election of United States Senator for the full term of six years, from the 4th day of March, 1881, took place on Tuesday, January 18th, and the vote in each House was as follows:

	Senate.	House.	Total.
For Omar D. Conger, Republican	23	84	112
For George O. N. Lothrop, Dem.	2	13	15
Majority for Conger.....	.....	.....	97

In the Republican caucus held the week preceding the election a spirited contest was had, the candidates being ex-Governor Henry P. Baldwin, successor to the deceased Senator Zachariah Chandler, by appointment by the Governor; ex-Governor John J. Bagley, and Hon. O. D. Conger, then just closing his sixth successive term as Representative in Congress, and who, at the preceding November election, had been the successful candidate for a seventh term. After several ballots the name of ex-Governor Baldwin was withdrawn, when Mr. Conger received the nomination by a majority of one vote. On the same day Senator Baldwin, by a vote of 29 in the Senate, and 84 in the House, was elected for the term ending March 4, 1881, his own successor. The vote of the Democratic Senators was equally divided, one of them voting for Hon. Orlando M. Barnes, and the other giving his vote to the Republican candidate. The 13 Democratic votes in the House were given to Hon. George P. Sanford.

An election was held on the first Monday of

* On the day of this vote the legislative correspondent of the Detroit "Post and Tribune" wrote: "Thus ended the severest and most prolonged contest of this or any recent session. Not a stone was left unturned by the friends or foes of the bill, and pressure was brought to bear from every direction upon Senators and Representatives—from members of Congress familiar with the legislation attempted last winter at Washington, and from constituents at home who can not be supposed to have better knowledge of the merits of the bill than the Senators or Representatives whom they attempted to instruct. Only to-day one Senator received about half a dozen telegrams from his constituents advising him of the views of his friends and political partisans. The passage of the bill certainly can not be styled hasty or ill-considered legislation. Your correspondent takes no stock in the charges that votes have been bought and sold. The defeated parties interested in the bill have the courts open to them if the bill interferes with their legal rights."

April for Justice of the Supreme Court and two Regents of the University, with four party tickets in the field. There was nothing noteworthy in the platform of either party, no animation in the campaign, and the total vote polled was 106,008 short of that given for presidential electors at the preceding November election. The result was as follows:

FOR JUSTICE OF THE SUPREME COURT.

For Isaac Marston, Republican.....	127,536
" Augustus C. Baldwin, Democrat.....	73,369
" John B. Shipman, National Greenbacker.....	83,289
" Charles B. Hyde, Prohibitionist.....	12,825
Scattering and defective.....	57
Total.....	247,076

Marston over Baldwin, 54,167; over all, 8,003.

FOR REGENTS OF THE UNIVERSITY.

For James F. Joy, Republican.....	127,532
" Austin Blair, Republican.....	126,617
" George O. N. Lothrop, Democrat.....	73,750
" Henry Fralick, Democrat.....	74,198
" Charles J. Willett, National Greenbacker.....	32,614
" David Parsons, National Greenbacker.....	32,480
" Isaac W. McKeever, Prohibitionist.....	13,266
" Edward C. Newell, Prohibitionist.....	12,550
Scattering and defective.....	582

At the same election judges were chosen for the full term of six years in twenty-six of the twenty-eight judicial circuits. Party lines were loosely drawn in the larger number of circuits, and in eight circuits only a single candidate was placed in nomination. The judges elected are, with their majorities: 1. Andrew Howell, no opposition; 2. Andrew J. Smith, no opposition; 3. F. H. Chambers, 816; 4. G. Thompson Gridley, 1,481 plurality, with 3,269 votes for a third candidate; 5. Frank A. Hooker, 2,036; 6. William W. Stickney, 988; 7. William Newton, 1,321; 8. Vernon H. Smith, 2,589; 9. Alfred J. Mills, 230 plurality, with 1,447 for a third candidate; 10. Chauncey H. Gage, 761; 11. Joseph H. Steere, 469; 12. William D. Williams, no opposition; 13. Reuben Hatch, 111; 14. Frederick J. Russell, no opposition; 15. Russell H. Pealer, 913; 16. Herman W. Stevens, 624 plurality, with 703 for a third candidate; 17. Robert M. Montgomery, 872 plurality, with 1,248 for a third candidate; 18. Sanford M. Green, no opposition; 19. J. Byron Judkins, 1,788; 20. Daniel J. Arnold, no opposition; 21. Henry Hart, 4,146; 22. Chauncey Joslin, 257; 23. Jonathan B. Tuttle, 543; 24. Levi L. Wixon, no opposition; 25. Claudius B. Grant, 492; 28. John M. Rice, no opposition.

Three constitutional amendments were also voted upon and adopted. The first, amendatory of section 12, Article XIII, so that penal fines, heretofore devoted to library purposes exclusively, may be in whole or in part applied to the support of schools, when so ordered by the township board of any township or the board of education of any city. Vote for, 51,471; against, 8,370. The other two amendments (see a preceding paragraph) were adopted—the first by a vote of 53,840 to 6,628, and the second by a vote of 62,593 to 6,640. Each of the

amendments became a part of the Constitution January 1, 1882.

The annual report of the State Treasurer for the fiscal year ending September 30th shows the financial condition of the State at that date as follows:

Cash balance, September 30, 1880.....	\$1,578,643 01
Receipts for fiscal year.....	2,607,288 07
Total.....	\$4,185,931 08
Payments during the year.....	2,392,569 01

Balance, September 30, 1881..... \$1,793,362 07

The demands against the Treasury then due or to mature before the 31st day of December, 1881, were \$581,208.68. To this amount add the indebtedness to the trust funds as follows:

To sinking fund.....	\$589,000 00
" canal fund.....	66,843 62
" primary-school interest fund.....	505,852 45

Total..... \$1,161,696 07

Combining this last amount with that stated due and to become due for current expenses, the demands upon the Treasury aggregate \$1,742,904.75, leaving a net surplus of \$50,457.32, or \$215,474.22 short of the net surplus of the preceding year.

Of the interest-bearing bonded debt but \$1,000 have been paid during the year, leaving due:

Two-million loan, 6s, due January 1, 1883.....	\$590,000 00
War-bounty loan, 7s, due May 1, 1890.....	299,000 00
	\$889,000 00

Add non-interest-bearing bonds:

Adjusted bonds due Jan. 1, 1863....	\$3,000 00
Part-paid bonds, adjusted at \$578 57	
per \$1,000.....	12,149 97 15,149 97

Total bonded debt..... \$904,149 97

Sufficient funds are held in the Treasury, and applicable for that purpose, to extinguish this debt. During the year the State has received interest on surplus funds, specific taxes, United States bonds, and tax-sales, to the amount of \$63,475.78, and paid interest on bonded debt, \$55,920. Surplus of interest received, \$7,555.78.

The trust-fund indebtedness has increased during the year from \$3,564,556.02 to \$3,752,476.84, and the interest paid on the same from \$226,889 to \$247,946.86. This interest was paid as follows:

Primary-school interest fund.....	\$133,550 49
Primary-school five per cent fund.....	16,431 01
University interest fund.....	33,083 77
Agricultural College interest fund.....	11,426 93
Normal School interest fund.....	3,454 66

The primary-school fund was increased from the above amount in the sum of \$305,395.27, transferred from the sinking fund pursuant to the decision of the Supreme Court made in January, 1881, and the amount disbursed to the school districts of the State in May, 1881, was increased from 47 cents per capita allowance to each child of school age (the rate for 1880) to \$1.20 per capita. The transfer from the specific tax fund to the same fund made for distribution in May, 1882, aggregates \$406,675.06.

The specific taxes which form so large an item in the receipts into the Treasury from year to year, and all of which, except the mining taxes collected in the Upper Peninsula, are set apart by constitutional provision—first, to the payment of the interest on the State's indebtedness to the educational funds; second, to the payment of the interest on the State debt; and, third (the principal of the State debt being now provided for), to the primary-school interest fund, for annual distribution, amounting in 1881 to \$750,089.29—came from the following sources:

Railroad companies.....	\$618,934 89
Street railway companies.....	3,193 63
Freight, sleeping, and palace-car companies.....	1,169 27
Fire-insurance companies.....	59,774 41
Life-insurance companies.....	20,269 02
Plate-glass insurance companies.....	51 28
Mining companies.....	39,423 22
Telegraph companies.....	4,067 70
Express companies.....	1,628 94
Plank and gravel road companies.....	235 66
River improvement companies.....	1,276 77
Musical societies.....	4 50
Total.....	\$750,089 29

The receipts from the same sources last year amounted to \$619,542.58. Increase, \$140,546.71.

According to the late United States census the local indebtedness (county, city, town, and school district) was, September 30, 1880, as follows:

Bonded debt of counties.....	\$370,302
Floating debt of counties.....	26,398
Bonded debt of townships.....	349,848
Floating debt of townships.....	279,357
Bonded debt of cities and villages.....	6,383,401
Floating debt of cities and villages.....	52,899
Bonded debt of school districts.....	1,293,591
Floating debt of school districts.....	96,081
Total.....	\$9,351,877

On the 6th day of October the Auditor-General apportioned the State taxes for the year for the following purposes:

For University of Michigan.....	\$115,000 00
" State Normal School.....	44,500 00
" State Agricultural College.....	50,969 50
" State Public School.....	41,650 00
" Michigan School for the Blind.....	18,500 00
" Institution for the Deaf and Dumb.....	41,600 00
" State Reform School for Boys.....	51,250 00
" State Reform School for Girls.....	98,550 00
" State House of Correction.....	3,863 32
" Eastern Asylum for Insane.....	96,000 00
" Michigan Asylum for Insane.....	52,900 00
" New Asylum for Insane.....	50,000 00
" Repairing Capitol.....	5,000 00
" Fish Commission.....	8,000 00
" State Board of Health.....	2,000 00
" Military purposes.....	57,271 73
" General State purposes.....	404,675 00
Total State taxes.....	\$1,142,734 55
Add indebtedness of counties to State.....	243,303 00
Total apportionment.....	\$1,391,037 55

The apportionment was made on the basis of the new equalization established by the State Board in August, which increased the valuation of the real and personal estate assessable from \$630,000,000, as determined in 1876, to \$810,000,000. The tax is a fraction over \$1.41 on each \$1,000.

Accompanying the annual report of the

State Treasurer is found a statement of resources and liabilities of the fifteen State banks, as shown by their official reports made July 2, 1881. Resources: Loans and discounts, \$3,-414,221.49; bonds, \$105,498.02; cash and cash items, \$479,366.39; real estate and fixtures, \$83,597.97; due from banks and bankers, \$679,291.51; expenses, \$12,175.31; over-drafts, \$35,564.03. Total, \$4,809,714.72. Liabilities: Capital, \$1,014,285.40; surplus, \$218,545.99; due banks, \$8,414.75; due depositors, \$3,443,-106.29; profit and loss, \$75,365.69; rediscounts, \$49,996.60. Total, \$4,809,714.72. The increase of capital over that reported July 1, 1880, is \$140,535.40; also of amount due depositors, \$909,173.29. The total resources exceed those of the previous year, \$1,035,585.34, and the loans and discounts fall short, \$50,-426.96. Increase in number of banks, two.

Fourteen savings-banks reported under date of October 3d. Resources: Loans and discounts, \$7,653,973.76; bonds and mortgages, \$1,806,-403.38; cash and cash items, \$921,391.54; real estate and fixtures, \$360,479.71; due from banks and bankers, \$1,169,931.85; expenses, \$34,111; over-drafts, \$40,949.73. Total resources, \$11,987,240.97. Increase over resources reported October 4, 1880, \$2,214,299.-78. The increase in item of loans and discounts was \$3,148,257.86, while the bond and mortgage securities decreased \$926,085.17. The liabilities were: Capital, \$1,165,000; surplus, \$118,952.29; due banks, \$177,520.99; due depositors, \$10,295,025.36; profit and loss, \$97,510.89; interest and exchange, \$133,-231.34. Total, \$11,987,240.47. Increase of amount due depositors, \$2,058,931.36; and of combined capital and surplus, \$7,821.05. Decrease in number of banks, one.

The preliminary report of the Commissioner of Insurance is made for the year ending December 31, 1881, and sets forth the financial condition of each stock, fire, and fire-marine insurance doing business in the State, and making the annual statement required by law. The commissioner summarizes the reports and tables: "The entire capital stock represented amounts to \$51,019,280; the admitted assets to \$138,512,491; surplus as regards policy-holders, \$38,974,649; and the surplus over capital and all other liabilities amounts to \$38,108,728. In making up the exhibit of both home and foreign companies, all deposits of funds made in States for the exclusive benefit of policy-holders in such States have been deducted from the available assets. A deduction has also been made of the liabilities in such States. The companies of foreign governments are each rated as having a capital stock of \$200,000, and their financial condition given on the basis of their assets and liabilities in the United States in accordance with the provisions of Act No. 71, Laws of 1879. The fire and inland marine risks written in Michigan during the year 1881 amount to \$181,740,666.-30; premiums received, \$2,256,644.19; and

losses incurred, \$1,490,366.24, as shown by the companies that have reported."

Comparing the business of the year with that of 1880, the commissioner says: "The results of the Michigan business show about the same in amount of risks written. The premium receipts in 1881 exceed those of 1880 by about \$225,000, but the losses incurred during 1881 will exceed those of 1880 in the sum of \$500,000.

The statistics given cover the business of 2 Michigan companies, 86 companies incorporated under the laws of other States, 1 Canadian company, and 23 foreign companies. The details for the two Michigan companies are: capital, \$500,000; admitted assets, \$831,307.19; liabilities, including reinsurance fund and capital, and excluding liabilities on special deposits, \$613,945.80; surplus, as regards policyholders, \$717,361.39; surplus over capital and all liabilities, \$217,361.39; risks written on Michigan, \$12,420,945; premiums received, \$148,547.27; losses incurred, \$76,924.62; losses paid, \$66,622.03.

The estimated amount of merchantable timber standing May 31, 1880, was as follows in the Lower Peninsula:

WHITE PINE (<i>Pinus strobus</i>).	No. of feet (board-measure).
Basins of streams flowing into Saginaw Bay, including Saginaw River and tributaries....	7,000,000,000
Basins of streams flowing into Lake Huron...	8,000,000,000
Basins of streams flowing into Lake Michigan.	14,000,000,000
Total.....	29,000,000,000

Cut for the census year ending May 31, 1880
(including 2,988,600,000 shingles and 428,445,000 laths, but exclusive of 36,000,000 staves and 3,380,000 sets headings)..... 4,068,773,000

The pine remaining on the Lower Peninsula is distributed over about 6,500,000 acres. Little remains in large bodies south of latitude 44° north, though south to latitude 43° north, pine is still to be found covering small areas.

An estimated amount of 575,500,000 cords of hard-wood is distributed over some 20,000,000 acres.

In the Upper Peninsula it was as follows:

WHITE PINE (<i>Pinus strobus</i>).	No. of feet (board-measure).
Basin of Menominee River and tributaries (Marquette and Menominee Counties).....	1,600,000,000
Ontonagon, Houghton, Keweenaw, Baraga, Marquette (west and north of Menominee basin), and Menominee (east of Menominee basin) Counties.....	2,400,000,000
Schoolcraft, Chippewa, Mackinac, and Delta Counties.....	2,000,000,000
Total.....	6,000,000,000

Cut for the census year ending May 31, 1880
(including 106,482,000 shingles, and 34,266,000 laths)..... 328,438,000

An estimated amount of 124,500,000 cords of hard-wood is distributed over some 10,000,000 acres.

From "Michigan and its Resources," a pamphlet issued by the Commissioner of Immigration, the following table is prepared, showing State and United States lands subject to entry October 1, 1881:

COUNTIES.	Swamp-lands.	Public-school lands.	Agricul. College lands.	United States lands.
Aleona.....	14,095	5,923	25,785	9,360
Allegan.....	340	2,769	.....	.....
Alpena.....	45,960	6,480	840	6,060
Antrim.....	1,058	5,161	6,148	571
Baraga.....	.....	11,774	.....	62,000
Barry.....	40	111	.....	.....
Bay.....	1,118	2,183	.....	.....
Benzie.....	3,923	2,720	.....	3,750
Berrien.....	.....	40	.....	.....
Branch.....	.....	46	.....	.....
Calhoun.....	160	120	.....	.....
Charlevoix.....	1,612	2,475	3,405	154
Cheboygan.....	20,749	10,697	5,728	10,748
Chippewa.....	57	34,098	.....	292,600
Clare.....	1,779	3,744	.....	2,075
Clinton.....	.....	125	.....	.....
Crawford.....	13,187	5,594	.....	22,457
Delta.....	271	15,508	.....	135,240
Eaton.....	219	40	.....	.....
Emmett.....	6,986	6,089	.....	2,844
Genesee.....	40	.....	.....	.....
Gladwin.....	4,517	1,652	.....	.....
Grand Traverse.....	2,973	2,125	720	1,898
Gratiot.....	400	1,120	.....	120
Houghton.....	.....	13,543	.....	59,000
Huron.....	.....	3,177	.....	.....
Ingham.....	560	40	.....	.....
Ionia.....	80	.....	.....	.....
Iosco.....	17,209	6,291	27,115	28,000
Isabella.....	40	720	.....	40
Isle Royal.....	3,787	3,876	.....	14,640
Jackson.....	80	400	.....	.....
Kalamazoo.....	40	.....	.....	.....
Kalkaska.....	4,583	5,006	1,718	4,100
Keweenaw.....	.....	2,211	.....	4,000
Lake.....	1,348	4,485	.....	3,120
Lapeer.....	178	360	.....	.....
Leclenaw.....	1,638	1,855	.....	2,985
Livingston.....	200	40	.....	.....
Mackinac.....	120	34,423	.....	78,000
Manistee.....	2,726	3,283	8,080	14,888
Manitou.....	2,002	1,923	.....	15,898
Marquette.....	200	42,405	.....	223,000
Mason.....	1,052	1,628	.....	4,766
Meeosta.....	80	1,083	.....	.....
Menominee.....	3,177	13,814	.....	45,600
Midland.....	403	3,686	.....	.....
Missaukee.....	11,142	3,547	1,759	2,888
Monroe.....	.....	140	.....	.....
Montcalm.....	40	200	.....	40
Montmorency.....	26,796	6,600	9,118	45,907
Muskegon.....	.....	4,128	.....	1,166
Newaygo.....	148	4,474	.....	888
Oakland.....	80	40	.....	.....
Oceana.....	40	1,200	.....	1,111
Ogemaw.....	3,818	4,602	.....	1,500
Ontonagon.....	9,658	35,280	.....	363,000
Oscoda.....	458	2,012	.....	160
Oscoda.....	2,544	5,800	17,065	67,150
Otsego.....	9,686	5,121	4,080	4,074
Ottawa.....	.....	1,213	.....	80
Presque Isle.....	55,574	10,935	1,289	31,563
Rosecommon.....	24,730	4,194	.....	11,443
Saginaw.....	1,994	2,074	.....	.....
Sanilac.....	123	2,720	.....	.....
Schoolcraft.....	75	38,191	.....	137,500
St. Clair.....	1,976	440	.....	.....
St. Joseph.....	.....	80	.....	.....
Tuscola.....	565	2,355	.....	.....
Van Buren.....	40	820	.....	.....
Wexford.....	1,197	4,280	28,040	1,006

There are, besides those enumerated, 200 acres of "University land" in Kalamazoo, 30 in Berrien, and 67 in Ottawa; and 280 acres of "asset land" in Lapeer, and 40 in Genesee.

In addition to the above lands held by the State, the several land-grant, railroad, and canal companies held lands at the same date, as follows:

	Acres.
Flint and Pere Marquette Railroad Company.....	146,100
Grand Rapids and Indiana Railroad Company.....	537,037
Jackson, Lansing and Saginaw Railroad Company..	384,405

	Acres.
Detroit, Mackinac and Marquette Railroad Company.....	1,326,963
Chicago and Northwestern Railroad Company.....	657,220
Lake Superior Ship Canal, Railway and Iron Company.....	210,000
St. Mary's Canal and Mineral Land Company.....	127,000
Michigan Land and Iron Company, successor to Marquette, Houghton and Ontonagon Railroad Company.....	400,000

The lands held by the four corporations first named are in the Lower Peninsula, and may be classed as pine and farm lands. The lands of the five other corporations are all located in the Upper Peninsula, and include both mineral and pine lands.

The last published report of the Commissioner of Railroads covers the year ending December 31, 1880, and the business of fifty corporations, under the control of thirty-six managements. These corporations operate 6,427,54 miles of road, 3,824 being in Michigan, an increase over 1879 of 166 miles. The capital stock of the fifty corporations, paid in and invested in the roads, is \$160,580,320.06, or \$27,376.48 per mile. The debt is: funded, \$142,212,896.73; floating, \$11,159,412.17; total, \$153,372,308.90, or \$26,147.63 per mile. Total stock and debt, \$313,952,628.95, being \$53,524.11 per mile of road, while the commissioner puts the total cost of roads and equipments at \$297,388,917.13, or only \$51,149.95 per mile. The total investment in Michigan he puts at \$204,673,520.43, and the cost of the Michigan roads at \$195,594,851.30. The excess of stock and debt over cost of road-bed and equipment is \$9,078,665.13, arising largely from the fact that "the resources of the corporations have not been sufficient to meet interest on the bonded debt and expenses, thereby incurring a floating debt, which is included in the account of indebtedness." But seven corporations failed to earn enough to pay operating expenses—four of them being "log-roads"—the deficiency being \$64,418.64. In 1879 ten companies were deficient in the sum of \$246,926.82. The total earnings of the roads were \$56,650,054.10, against \$45,942,860.23 in 1879. The expenses, \$32,268,996.74, against \$26,906,685.44. Earnings above operating expenses, \$24,381,057.36, an increase over 1879 of \$5,345,882.57. But six companies paid any dividends—the aggregate being but \$8,300,952.57. The total number of passengers carried during the year, 13,507,200, an increase of 2,541,583 over 1879. The number carried one mile was 114,580,292, at a cost of \$0.269 per mile. The freight tonnage was 55,122,240, exceeding the freight carriage of 1879 by 30,873,350 tons. The number of tons carried one mile was 4,789,420,773, an increase over 1879 of 1,190,744,288. The average charge per mile for each ton of freight hauled was $\frac{8}{100}$ of a cent per mile, against $\frac{9}{100}$ in 1879.

The following table shows the number of miles of railroad in Michigan on the 31st day of December, 1881, a year later than the commissioner's report:

ROADS AND THEIR BRANCHES.	Length (1881) miles.
Lake Shore and Michigan Southern.....	531
Michigan Central.....	903
Grand Trunk.....	820
Chicago and Grand Trunk.....	80
Wabash, St. Louis and Pacific.....	258
Detroit, Lansing and Northern.....	88
Chicago, Saginaw and Canada.....	189
Detroit, Grand Haven and Milwaukee.....	315
Flint and Pere Marquette.....	15
Flint and Pere Marquette (Saginaw and Mount Pleasant Branch).....	213
Grand Rapids and Indiana.....	354
Chicago and West Michigan.....	65
Canada Southern.....	46
Fort Wayne and Jackson.....	57
Toledo, Ann Arbor and Grand Trunk.....	10
Lake George and Muskegon.....	20
Pinconning.....	24
Tawas and Bay County.....	10
St. Joseph Valley.....	100
Port Huron and Northwestern.....	18
Paw Paw.....	8
Toledo and South Haven.....	10
Muskegon River and Rose Lake.....	
Hobart and Manistee.....	

UPPER PENINSULA.

Chicago and Northwestern.....	202
Detroit, Mackinac and Marquette.....	152
Marquette, Houghton and Ontonagon.....	90
Mineral Range.....	12
Hecla and Torch Lake.....	4

* Total..... 4,144

From tables in the "Lumberman's Gazette," published at Bay City, giving the total production of white-pine lumber in the Northwest for two years past, the following figures are taken, giving the cut at principal Michigan points for 1881:

	Feet.
Saginaw district.....	1,294,000,000
Manistee.....	250,000,000
Muskegon.....	632,500,000
Ludington.....	120,000,000
Grand Haven and Spring Lake.....	191,000,000
Cheboygan.....	92,000,000
Detroit and Lansing Railroad and Lake Huron Shore.....	320,000,000
Grand Rapids and Indiana Railroad.....	196,000,000
Chicago and West Michigan Railroad.....	65,000,000
Northern Railroad.....	84,000,000
Flint and Pere Marquette Railroad.....	95,000,000
Michigan Central Railroad, Mackinaw and Detroit and Bay City divisions.....	85,000,000
Miscellaneous.....	92,000,000
Total.....	3,516,500,000

The products of Bay and Saginaw County mills are definitely given as follows:

Lumber manufactured, feet.....	972,820,317
On dock at close of season, feet.....	282,120,929
On dock, sold, feet.....	118,605,117
On dock, unsold, feet.....	163,515,812
Laths manufactured.....	65,983,750
Shingles manufactured.....	354,925,500
Staves manufactured.....	47,480,959
Headings manufactured.....	5,440,947
Logs in mill-boom.....	46,493,890

The journal quoted says: "During the last three years the annual increase of production (in the Northwest) over each preceding year has been about 1,000,000,000 feet, yet, notwithstanding this enormous increase, the amount in manufacturers' hands is probably less at the present time (January 1, 1882) than during either of the three previous years."

The annual report of the salt inspector shows

* Increase over 1880, 320 miles.

92 steam-blocks in operation, 29 pan-blocks, 2 kettle-blocks; total number of blocks 121, and 4,500 salt-covers. Estimated annual capacity, 3,400,000 barrels. The following is a comparison of the amount and kind of salt produced in 1880 and 1881:

SALT.	1880.	1881.
Fine.....	2,589,087	2,673,910
Packers'.....	16,691	13,885
Solar.....	22,287	9,683
Second quality.....	43,623	52,821
Total.....	2,676,588	2,750,299
Increase.....		73,711

The total amount inspected in each salt district is as follows:

	Barrels.
District No. 1, Saginaw County.....	1,087,050
" No. 2, Bay County.....	1,112,529
" No. 3, Huron County.....	326,952
" No. 4, Iosco County.....	147,579
" No. 5, Midland County.....	74,537
" No. 6, Manistee County.....	16,042
Total.....	2,750,299

While the average depth of the Saginaw wells is about 900 feet, the Manistee salt deposit was reached at a depth of 1,964 feet, when 32 feet of solid salt-rock was found. A single Saginaw well has yielded 26,000 barrels in a manufacturing season of eight months.

A "Lumberman's Gazette" writer says: "The salt interest of Michigan can be safely pronounced a permanent source of wealth. Subterranean explorations are being made in widely scattered parts of the Lower Peninsula—in Berrien, Gratiot, Muskegon, Alpena, Cheboygan, and other counties—with promising prospects. Under a general enabling act passed by the last Legislature, an underground pipeline, nine inches in bore and twelve miles in length, was laid between the salt-wells of East Tawas and the lumber-mills at Oscoda; it is expected that it will supply brine enough for the daily manufacture of one thousand barrels."

Also: "The best qualities of Michigan salt sell promptly for dairy and family use, and are especially adapted to the wants of packers of meats and fish. The inferior grades are branded as such, and sold for salting stock and hides, and similar purposes, while an increasing market has opened for refuse salt as a fertilizer. Shipments in bulk and in sacks have recently begun."

In 1880 the average price of Michigan salt was 75 cents per barrel, and in 1881, 83 $\frac{2}{3}$ cents—Saginaw salt averaging 90 cents.

The Marquette "Mining Journal" gives full statistics of the product of the Upper Peninsular iron-mines for 1881, and also a table of the aggregate production of the mines and furnaces, in gross tons, since 1856, and the value of the same. The product for the last five years is appended, and also the total for the twenty-six years:

YEARS.	Ore.	Pig-iron.	Ore and pig.	Value.
1877.....	1,025,129	29,685	1,054,814	\$5,299,598
1878.....	1,125,093	17,404	1,142,497	6,884,482
1879.....	1,418,182	39,583	1,453,765	11,418,114
1880.....	1,987,598	48,523	2,036,121	19,457,427
1881.....	2,321,315	52,953	2,374,268	20,498,618
26 years.	17,642,443	843,251	18,485,694	\$188,592,275

The value of the quartz product of 1881 was \$75,713, giving a total production for the year of \$20,573,713.

Six mines raised ore exceeding \$1,000,000 each, as follows: Republic, \$2,337,860; Lake Superior, \$2,185,578.50; Cleveland, \$1,886,405.50; Champion, \$1,454,270; Chapin, \$1,076,168; Indiana, \$1,024,500.50.

The following table, from the same paper, shows the product of the Lake Superior charcoal-furnaces in 1881, with its value in market:

NAME OF FURNACE.	Gross tons.	Value.
Pioneer.....	17,080	\$510,900
Menominee.....	8,336	250,080
Florence.....	714	21,420
Carp River Iron Company.....	10,253	307,590
Jackson.....	4,680	140,400
Deer Lake.....	7,881	234,980
Martel.....	4,109	123,270
Total.....	52,953	\$1,588,590

Concerning the out-put of the copper-mines of Lake Superior for 1881, the "Portage Lake Mining Gazette," of January 5th, said: Below will be found the yield of the leading mines of this district for the year ending December 31, 1881:

MINES.	Tons.	Pounds.
Calumet and Hecla.....	19,462	492
Quincy.....	3,407	1,485
Osceola.....	2,403	880
Atlantic.....	1,815	1,995
Franklin.....	1,614	190
Pewabic.....	1,123	1,550
Allouez.....	969	1,845
Copper Falls.....	459	310
Hancock.....	446	508
All other sources, including Central, Phoenix, Conglomerate, and St. Clair mines, the Ontonagon district and tributaries, about.....	2,400	.....
Total.....	34,102	1,195
Product in 1880.....	31,500	.....
Excess in 1881.....	2,602	1,195

Estimating the mineral yield for 1881 at 80 per cent ingot, the "Northwestern Mining Journal" (published at Hancock) tabulates the total production of mines named since the beginning of mining operations:

MINES.	Tons, ingot.
Atlantic.....	10,537
Calumet and Hecla.....	142,127
Franklin.....	16,843
Hancock.....	1,760
Huron.....	8,970
Osceola.....	9,928
Pewabic.....	12,419
Quincy.....	29,475
Total.....	226,559

The writer adds: "At twenty cents per pound, the united product of the above-men-

tioned mines has amounted to nearly ninety-one million dollars, and every one of them to-day is in better condition to produce plentifully and profitably than ever before."

In advance of his annual report the Secretary of State furnishes the following crop and farm statistics. The first table compares the products of 1879 and 1880; and the second, 1880 with 1881:

PRODUCTS.	1880.	1879.
Wheat, acres harvested.....	1,768,475	1,605,636
Wheat, bushels raised.....	30,603,075	30,983,340
Wheat, average bushels per acre.....	17.30	19.30
Corn, acres harvested.....	741,404	742,859
Corn, bushels raised.....	45,505,111	42,764,123
Corn, average bushels of ears per acre.....	61.33	57.57
Oats, acres harvested.....	466,245	440,723
Oats, bushels raised.....	13,914,738	15,089,555
Oats, average bushels per acre.....	29.85	34.25
Clover-seed, acres harvested.....	71,492	194,399
Clover-seed, bushels raised.....	82,824	313,063
Clover-seed, average bushels per acre.....	1.16	1.61
Barley, acres harvested.....	34,302	44,007
Barley, bushels raised.....	652,693	991,659
Barley, average bushels per acre.....	19.03	22.53
Peas, acres harvested.....	27,833	33,079
Peas, bushels raised.....	406,793	537,732
Peas, average bushels per acre.....	14.60	15.95
Potatoes, acres harvested.....	83,293	89,441
Potatoes, bushels raised.....	3,315,787	3,025,475
Potatoes, average bushels per acre.....	93.84	89.13
Hay, acres harvested.....	943,426	943,371
Hay, tons raised.....	1,146,734	1,051,115
Hay, average number of tons per acre.....	1.21	1.11
Sheep, number sheared.....	1,965,952	1,828,530
Wool, pounds sheared.....	10,724,107	9,582,034
Wool, average number lbs. per head.....	5.45	5.23
Apples, bushels sold.....	.....	1,831,910
Peaches, bushels sold.....	.....	229,570
Grapes, pounds sold.....	.....	2,956,437
Cherries, currants, plums, and berries, bushels sold.....	.....	161,316

Fruit statistics not compiled at date of Secretary's communication, but the product of 1880 was much larger than that of 1879.

FARMS, STOCK,* ETC.	1881.	1880.
Farms, number of.....	119,769	118,941
Farms, acres of improved land in.....	6,374,385	6,217,209
Farms, acres of unimproved land in.....	4,703,393	4,761,058
Farms, total number of acres in.....	11,077,165	10,977,105
Farms, average of acres in each.....	92.40	92.19
Wheat, acres now on the ground.....	1,783,319	1,832,366
Horses, number of.....	305,591	293,210
Milch-cows, number of.....	311,300	301,142
Cattle, other than milch-cows, No. of.....	322,281	344,791
Hogs, number of.....	424,795	463,629
Sheep, number of.....	2,095,408	1,892,311
Apple-orchards, number of acres in.....	Not complete.	226,349
Peach-orchards, number of acres in.....	.....	13,901

Varnum B. Cochran, appointed by the Governor to be Superintendent of Public Instruction, *vice* Superintendent Gower, resigned, to accept the superintendency of the State Reform School for Boys, furnishes the following school statistics from the advance-sheets of his annual report:

Number of districts, September, 1881.....	6,524
Increase over previous year.....	172
Number of school-houses.....	6,573
Increase over previous year.....	173
Number of children between five and twenty years of age.....	518,317
Increase during the year.....	12,096
Number of children attending public schools.....	371,613
Increase over previous year.....	9,057

* Does not include live-stock in cities, except in a few cases.

Number of sittings in public schools.....	454,514
Increase over 1880.....	8,435
Number of private and select schools.....	252
Number of teachers employed, male.....	4,024
Number of teachers employed, female.....	10,445
Increase over 1880.....	520
Wages paid teachers.....	\$2,024,626 99
Increase over 1880.....	106,648 00
Estimated value of school property.....	9,333,951 00
Amount on hand from previous year.....	657,035 50
Amount received from one-mill tax.....	507,111 38
Amount received from primary-school fund.....	512,209 44
Library moneys.....	13,313 95
Amount received as tuition of non-residents.....	35,119 02
Amount received from district taxes.....	2,288,823 97
Amount received from all other sources.....	283,200 66

Total receipts of the year.....	\$4,201,813 92
Amount carried forward to next year.....	884,215 44
Expenditures, including wages of teachers, payments on debts, buildings, etc.....	3,417,598 48
Total expenditures of the year.....	\$4,201,813 92

The attendance of students at the State Normal School during the school year 1880-'81 was 492; number of graduates in 1881, 90; number of instructors, 12. Ordinary receipts, \$23,835.02; expenditures, \$24,066.62. Additional buildings and permanent improvements, \$24,066. Students thoroughly prepared to take work in the higher classes can complete the professional course in one year, though the authorities advise that the courses marked out for the last two years be pursued in the school.

The President of the State Agricultural College gives the number of students in attendance during the year as 228, classified: Resident graduates, 4; seniors, 35; juniors, 33; sophomores, 53; freshmen, 90; in select studies, 13. The number of graduates, 13. An additional professorship was created and filled—that of History and Political Economy. A library and museum-building, an enlargement of the chemical laboratory, and several farm-buildings are in process of construction, appropriations having been made by the Legislature of 1881. The appropriations for buildings and current expenses were \$50,969.50. The trust fund, September 30th, was \$173,478.88, having increased during the year \$20,341.18. The interest from the trust fund and on the part-paid lands amounted for the fiscal year to \$20,000.30; 6,528.97 acres of Agricultural College lands were sold, during the year ending September 30th, for \$26,007.25. The number of acres remaining unsold at same date was 146,803.97. The price of the college lands has been increased to \$5 per acre.

The annual report made by the acting president to the Board of Regents of the Michigan University chronicles a very prosperous year. The number of students registered and catalogued was 1,534, an increase of 104 over the preceding year. These students are classified: Department of Literature, Science, and the Arts, 521; Department of Medicine and Surgery, 380; Department of Law, 371; School of Pharmacy, 88; Homœopathic Medical College, 88; College of Dental Surgery, 86. In the Department of Literature, Science, and the Arts, there were 7 candidates for the degree of Civil Engineer, 28 for that of Bachelor of

Letters (English), 58 for Bachelor of Science, 15 for Bachelor of Philosophy, 77 for Bachelor of Letters (Latin), and 240 for Bachelor of Arts. Of the 210 new students in this department, 75 were admitted on diplomas given by the high-schools of the State, the standing of which schools is yearly passed upon by the faculty, on the recommendation of committees appointed to visit and examine the schools. During the year 431 degrees were conferred on examination: 96 upon the graduates from the Department of Literature, Science, and Arts; 33 from the School of Pharmacy, 99 from the Department of Medicine and Surgery, 145 from the Department of Law, 21 from the Homœopathic Medical College, and 37 from the College of Dental Surgery. Eight honorary degrees were conferred. During the year a School of Political Science was organized, and is now in full operation. The first announcement contained a list of ten professors and lecturers, and the following curriculum of instruction, subject to changes and additions as experience shall make necessary:

1. Theories of political economy.
2. General political history of Europe from the Renaissance to the French Revolution.
3. Political and social history of England from Henry VI to Charles I.
4. Political history of America before the adoption of the Constitution of the United States.
5. The laws of public health.
6. The elements of constitutional law.
7. The science of forestry, and its relations to national economy.
8. Political history of England from Charles I to George III.
9. Practical questions in political economy.
10. General theories of international law.
11. Theories of taxation and public revenue.
12. History of political forms and political methods.
13. Constitutional history of the United States.
14. The political history of England from George III to the present time.
15. The management of reformatory and penal institutions.
16. Practical questions in social science.
17. Political ethics.
18. Political theories and methods of the English Government.
19. The constitutional history of England.
20. Civil service in Europe and in the United States.
21. The government of cities.
22. The history of financial theories and financial methods.
23. The history of political ideas.
24. The history of modern diplomacy.
25. Comparative politics of the larger nationalities of Europe.
26. Comparative constitutional law of Europe and the United States.
27. Comparative administrative law of the several states of Europe and of the American Union.

Several additions were made to the faculties, and the library liberally increased during the year. The Legislature made, in addition to other liberal appropriations, an appropriation of \$100,000 for a library-building. Plans for the same have been adopted, the contract let, and the work is in progress. The receipts for the year, including balance on hand, October

1, 1880 (\$19,067.24), were \$231,338.90. Expenditures, \$224,076.12. Cash balance, September 30, 1881, \$7,268.78.

The statistics of the Michigan Asylum for the Insane show:

PATIENTS.	Males.	Females	Total.
Patients in Asylum, October 1, 1880....	300	357	657
Patients admitted during the year.....	113	57	170
Whole number treated during the year.....	418	414	832
Discharged during the year.....	47	46	93
Died during the year.....	23	23	51
Remaining September 30, 1881.....	333	345	638

Amount received for the support of patients during fiscal year, \$150,728.77. Disbursed for same purpose, \$138,632.64. The cost per week per capita was \$3.92½.

In a personal letter covering these statistics, the medical superintendent says: "The type of insanity within the last twenty years has materially changed in those admitted to this institution. While the number suffering from mania, or the more active forms of disease, has diminished, the number brought to us afflicted with obscure nervous disorders has largely increased. The same is true of those of defective organizations. These are facts having an important bearing upon the welfare of the race, and suggest that other agents more potent in their depressing effects are acting upon the nervous system, which at first produces functional disturbance, but if continued, ultimately, by impairing nutrition, produces organic changes that yield but imperfectly to treatment. In brief, we may say that these fatal forms of nervous disorders are due, in a great measure, to our fast and intense way of living."

The statistics received from the Eastern Asylum for the Insane cover the same period, the fiscal year ending September 30, 1881, and are:

	Males.	Females	Total.
Under treatment October 1, 1880.....	231	212	443
Admitted during the year.....	85	72	157
Whole number treated.....	316	284	600
Discharged, recovered.....	29	18	47
Discharged, improved.....	20	18	38
Discharged, unimproved.....	22	13	35
Temporarily absent.....	..	3	3
Under treatment September 30, 1881....	240	231	471

Receipts for the fiscal year..... \$127,720 04
Expenditures for the fiscal year..... 122,149 50

The acting medical superintendent adds: "In regard to predisposing causes, heredity is much greater than any other. The following figures will illustrate this point, and may not be without interest. Of the 833 patients treated here, 362, or 43·457 per cent, have insanity in family, either direct or remote. One hundred and twenty-nine cases, or 15·486 per cent, have no insane relatives. It is often impossible, however, to obtain any information concerning the ancestry of a patient further back than one generation. Three hundred and sixteen cases, or 37·935 per cent, are unascertained, and 26 cases, or 3·121 per cent, are un-

classified. If the histories of the patients included in the last two classes could be ascertained, no doubt a large number of them would show an inherited tendency to mental disease."

In his recent annual report, the Auditor-General discusses the financial workings of the law which commits to county authorities the determination of the indigence of insane persons, the expense of their support at the asylums being paid by the State after the counties shall have supported them at the asylums for two years. That officer concludes that, if the State is to pay the bills, its officials should have something to do with making them, and that county officials would use more care in pronouncing insane persons indigent if their support was to devolve upon the counties for an indefinite term of years. He says:

Perhaps the results of this law can be more forcibly illustrated by comparison. For twenty years, from 1859 to 1878, inclusive, the receipts of the Michigan Asylum, for all purposes other than building, were, from private sources, eighteen per cent, and from State and counties, eighty-two per cent. For three years, 1879 to 1881, inclusive, the receipts of the same asylum for the same purposes were, from private sources, ten per cent, and from State and counties, ninety per cent. Indicating that under the new law, where the counties bear the expenses of the indigent insane for only two years, nearly twice as many insane persons are declared indigent by the county authorities as there would have been during the same period had the old law remained in force.

Owing to its recent organization, the same comparison can not be made with the Eastern Asylum. But the receipts for the years 1880 and 1881 for all purposes other than building were, from private sources, only six per cent, and from State and counties, ninety-four per cent.

Copious quotations are made from the reports of the State Asylums for the Insane, and the Auditor-General continues by drawing the following conclusions from what has been here given, and from other data necessarily omitted:

That the tendency is toward bringing all the insane of the State into State asylums.

That if this were an accomplished fact to-day, the biennial tax levy for their support alone would be, in round numbers, \$600,000.

That ten years hence (1891) the number of insane will have increased to 4,170, and the biennial tax levy for their support alone will then be upward of \$1,000,000.

The Superintendent of the State Public School, at Coldwater, furnishes the following statistics for the fiscal year ending September 30, 1881:

Received during the year.....	137
Placed in families during the year.....	112
Died during the year.....	2
Discharged during the year.....	24
Remaining September 30, 1882.....	384
Average attendance during the year....	308½
Operating expenses of the year.....	\$35,887 90
Cost per capita.....	\$116 42

Whole number of inmates during the seven and a half years since the school was opened, 1,081. Of this number 637 have been indentured, seven are out in families on trial, 112 have been returned to their counties, five have absconded, and 30 have died. A large percentage of those returned to their counties

were diseased or of feeble intellect, and should not have been sent to the school. Of the whole number placed in families but 63 have run away, many of whom are reported doing well and caring for themselves. Recent reports from 300 of those remaining in families are exceedingly encouraging, and the superintendent says, "It may be safely assumed, therefore, that leaving out those who were improperly admitted, being either diseased, mentally defective, or more properly subjects for the Reform School than for this institution, from 85 to 90 per cent will become in time respectable citizens."

The Principal of the Institution for the Deaf and Dumb, at Flint, reports for the fiscal year ending September 30, 1881: Number of pupils in attendance during the year, 279; completed course or discharged, 30; remaining in institution September 30, 1881, 249. Receipts from State Treasury, \$44,893.39; from earnings of shops, \$4,762.81; total, \$46,656.20. Expenditures: for current expenses, \$44,862.81; for improvements, \$1,793.39; total, \$46,656.20.

For the same period the new School for the Blind, now permanently located at Lansing, reports: Number of inmates or pupils enrolled during year, 55; number instructed in vocal music, 32; in instrumental music, 33; in literary studies, 55; in mechanical employments, 46. Teachers employed, six, classified: in literary department, two; in vocal and instrumental music, one each; in work department, two. The studies, aside from music, are: geography, arithmetic, object-lessons, reading and spelling, memorizing, writing, grammar, analysis, history, civil government, botany, natural philosophy, and geology. In the work department, the girls were instructed in knitting (by hand and machine), all kinds of plain sewing, crochet-work, a variety of fancy-work, and bead-work; and the boys in broom-making. Disbursements on account of current expenses, \$15,536.93.

The Michigan Reform School for Girls, located at Adrian, was opened for the reception of inmates in August, 1881. Two cottages have been completed, which will accommodate thirty-two inmates each, with the necessary officers and attendants. Three other buildings, two cottages and a school-house and chapel, for which the Legislature of 1881 appropriated \$54,250, are now being erected, and will be ready for use in the spring and summer of 1882. Girls between the ages of seven and seventeen years are to be sentenced to this school, on conviction before any court or magistrate "of being disorderly persons, or of any offense not punishable by imprisonment for life," unless "deemed incorrigible." Though a certificate of conviction is necessary to admission, the school is classed as strictly reformatory rather than penal, and provision is made for educating the inmates in house-keeping and needle-work, as well as in the primary studies of a school course; also for

placing girls in private families or apprenticing them until twenty-one years old, to which age all warrants of committal run. Number of inmates, forty, with a monthly increase of from five to ten. The experiment is yet a new one, and, though some most unpromising material has been received, the officials in charge of the school report satisfactory results "beyond all expectation." The governing board of the school consists, under the law, of "three women and two men."

C. A. Gower, the new Superintendent of the State Reform School (for boys), furnishes personal and financial statistics, as follows: Inmates of school, September 30, 1880, 316; received during year, 158; released, 165; remaining, September 30, 1881, 309.

Receipts—current expense fund.....	\$54,982 42
" special appropriations.....	17,856 06
Total.....	\$72,788 48
Paid from current expense fund.....	\$50,161 82
" special appropriations.....	11,279 29
Total payments.....	61,441 11
Unexpended September 30.....	\$11,347 87

Annual legislative appropriations for each year, 1881-'82, \$35,500. During the year a chapel has been erected, and in connection with the same a large reading-room has been fitted up, which the boys are permitted to use evenings. A "play-shed" has also been built, in which the boys engage in active sports during stormy weather.

The Warden of the State House of Correction and Reformatory reports:

Number of prisoners September 30, 1880.....	337
" received on sentence.....	336
" discharged by expiration of sentence...	792
" discharged by order of court.....	26
" pardoned.....	8
" died.....	5
" escaped and not recaptured.....	5
" sent out as witness.....	1
" remaining September 30, 1881.....	386

The earnings of the prisoners for the year were: On contracts, \$22,212.39; on prison-work, \$18,252.81; total, \$40,495.19. The receipts for the year were: On account of building and special appropriations, \$8,618.18; on account of current expenses, \$53,968.82; total, \$62,587. Disbursements: On account of building and special appropriations, \$5,899.84; on account of current expenses, \$54,053.74; total, \$59,953.58. Excess of receipts over expenditures, \$2,633.42.

The following statistics of the State Prison are collected from the manuscript of the Warden's unpublished report:

Number of prisoners September 30, 1880.....	773
" received during the year.....	216
" discharged by expiration of sentence.....	261
" discharged by order of the Supreme Court....	2
" pardoned by the Governor.....	13
" died.....	9
" escaped.....	4
" transferred to Detroit House of Correction....	1
" remaining in prison September 30, 1881.....	699

Average length of sentence received during the year, three years, ten months, eight days.

Net earnings of prisoners.....	\$91,767 75
Net expenditures.....	88,445 65
Net income.....	\$3,322 10

Number of prisoners at work on contracts, September 30, 1881:

On wagon contract.....	110
" shoe contract.....	51
" barrel contract.....	52
" cigar contract.....	65
" agricultural-tool contract.....	171
Total.....	449

The remaining 250 prisoners are employed under the direction of the officers. The coal used in the prison (not in the shops, contractors furnishing their own power and fuel) is mined on the prison-grounds.

The sentences for the year were for the following offenses:

Against life and person.....	56
" chastity and decency.....	13
" property.....	147
Total.....	216

The offenses against life, both for the year and since 1847, the date of the abolition of capital punishment, are classified:

CRIME.	The year.	Since 1847.
Murder in first degree.....	3	97
Murder in second degree.....	1	103
Manslaughter.....	4	104
Assaults with intent to murder.....	12	256
Totals.....	20	560

There are now confined in prison:

For murder in first degree.....	36*
" murder in second degree.....	27
" manslaughter.....	18
" murderous assaults.....	87
Total.....	168

Or 25 per cent of the whole number sentenced for the offenses named.

The average term served by life-convicts is seven and a half years, or lower than the average term of service of men received on sentence of fifteen years.

The prison history of life-convicts is summarized:

Died in prison.....	43
Discharged by courts.....	17
Sent to Detroit House of Correction.....	5
Pardoned.....	38†
Escaped.....	4
Remaining in prison.....	50

At the last session of the Legislature a bill was passed by the House restoring capital punishment, which was indefinitely postponed in the Senate as soon as received in that body, without a word of debate, by a vote of eighteen to eight.

The population of the State, by counties, in 1880, as compared with 1870, was as follows:

* Includes one sentenced in 1848.

† The pardons were, with scarcely an exception, given to prisoners whose lease of life was about to expire.

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Alcona.....	3,107	696	Houghton.....	22,473	13,879	Missaukee.....	1,553	130
Allegan.....	37,815	32,105	Huron.....	20,089	9,049	Monroe.....	33,624	27,483
Alpena.....	8,789	2,756	Ingham.....	33,676	25,268	Montcalm.....	33,143	13,629
Antrim.....	5,237	1,935	Ionia.....	33,872	27,631	Muskegon.....	26,586	14,394
Baraga*.....	1,864	.....	Iosco.....	6,873	3,163	Newaygo.....	14,658	7,294
Barry.....	25,317	22,199	Isabella.....	12,159	4,113	Oakland.....	41,537	40,867
Bay.....	38,081	15,900	Isle Royale §.....	55	.....	Oceana.....	11,699	7,222
Benzie.....	8,433	2,134	Jackson.....	42,031	36,047	Ogemaw.....	1,914	12
Berrien.....	36,785	35,104	Kalamazoo.....	34,342	32,054	Ontonagon.....	2,565	2,345
Branch.....	27,941	26,226	Kalkaska.....	2,937	424	Osceola.....	10,777	2,093
Calhoun.....	33,452	36,569	Kent.....	73,253	50,403	Oscoda.....	467	70
Cass.....	22,009	21,034	Keweenaw.....	4,270	4,205	Otsego ¶.....	1,974	.....
Charlevoix.....	5,115	1,724	Lake.....	3,233	543	Ottawa.....	33,126	26,651
Cheboygan.....	6,524	2,196	Lapeer.....	30,133	21,345	Presque Isle....	3,113	355
Chippewa.....	5,243	1,639	Leelenaw.....	6,253	4,576	Roscommon.....	1,459	.....
Clare.....	4,187	366	Lenawee.....	48,343	43,595	Saginaw.....	59,095	39,097
Clinton.....	23,100	22,345	Livingston.....	22,251	19,336	Saint Clair.....	46,197	36,661
Crawford †.....	1,159	.....	Mackinac.....	2,902	1,716	Saint Joseph.....	26,626	26,275
Delta.....	6,812	2,542	Macomb.....	31,637	27,616	Sanilac.....	26,341	14,562
Eaton.....	31,225	25,171	Manistee.....	12,532	6,074	Schoolcraft ¶.....	1,575	.....
Emmett.....	6,639	1,211	Manitou.....	1,354	891	Schiawassee.....	27,059	20,353
Genesee.....	39,220	33,900	Marquette.....	25,394	15,033	Tuscola.....	25,733	13,714
Gladwin ‡.....	1,127	.....	Mason.....	10,005	3,263	Van Buren.....	30,307	28,329
Grand Traverse..	8,422	4,413	Mecosta.....	13,973	5,642	Washtenaw.....	41,845	41,434
Gratiot.....	21,936	11,810	Menominee.....	11,937	1,791	Wayne.....	166,444	119,033
Hillsdale.....	32,723	31,634	Midland.....	6,893	3,285	Wexford.....	6,815	650
The State.....							1,636,937	1,184,059

MICHIGAN FIRES. On the 5th day of September, and several following days, destructive fires swept through the forests and fields of Huron and Sanilac Counties, in Michigan, burning dwellings, barns, churches, saw-mills, fences, orchards, farm-crops, etc. So rapidly did the flames spread that live-stock could find no place of refuge, and the loss of human life was great. A number of small villages were completely wiped out. In several townships houses enough were not left standing to give temporary shelter to the homeless, and the suffering of men, women, and children was great before temporary relief could reach them. The smoke was so dense that day was turned into night, even at a distance from the burning forests, while at other times the whole heavens seemed in flames. Eye-witnesses described great sheets of fire rolling over their heads, jumping from forest to forest, leaving here and there a house or barn as a landmark and a wonder. In some sections high winds prevailed, and acres of forest had every tree turned up by the roots, while other acres, near by, showed the blackened trunks erect. Men and women fought desperately to save their homes, and in some instances succeeded for the second and third time, to be baffled at last. In the town of Paris, Huron County, settled largely by Poles, the one which suffered the heaviest, both in life and buildings, reporting twenty-three lives lost and one hundred and seventy-two families burned out, it was said that the inhabitants, impressed with the conviction that the last day had come, gave up in despair, and made little effort to save their homes. The fire broke out simultaneously in many places, and everywhere from the same

cause, the setting fire to brush and log heaps, the settler's mode of clearing up his farm, and ran through twenty-two townships in Huron County and twenty-six townships in Sanilac, working greater or lesser devastation, according to the material it found to feed upon. The adjoining counties of Lapeer, St. Clair, and Tuscola, suffered from similar fires, but with no loss of life, and, in comparison, a limited loss of property.

Nearly eighteen hundred square miles of territory, or full one million acres, were burned over, being principally included in a belt sixty miles in length north and south, and from ten to thirty miles in width; the fires in Lapeer and Tuscola Counties lying west of that belt.

When the first relief agents penetrated the burned region the thousands of homeless people were found massed in the unburned school-houses, dwellings, or barns; at Bad Axe, the county-seat of Huron County, in the court-house; in improvised buildings, constructed of the planks from half-burned bridges, logs, or rails, thatched with cornstalks, and in some instances in dug-outs, or without any shelter. With the living were found the charred remains of the unburied dead, with men, women, and children so badly burned, though yet alive, that they could scarcely be recognized. A general relief committee was organized at Detroit, and another at Port Huron, with independent or sub-committees in almost every city and town in the State, and but a few days passed before the wants of the suffering were temporarily relieved, the dead buried, the burned and sick provided for in hospitals, and the work of permanent relief systematically entered upon. The citizens of other States also entered generously and earnestly upon the work, and poured money, goods, clothing, and provisions into the store-houses and treasury of the local committees with an unsparing hand. The Southern States vied with the Eastern, and

* Organized in 1875, from part of Houghton.

† Organized in 1879; previously attached to Kalkaska.

‡ Organized in 1875; previously attached to Midland.

§ Formed and organized in 1875, from part of Keweenaw.

¶ Organized in 1875; previously attached to Antrim.

¶ Organized in 1871; previously attached to Marquette.

those most distant with the States near at hand. The following tables compiled by the Port Huron Committee give the losses of life and property in Huron and Sanilac Counties, by townships, and show the magnitude of the work the relief committees undertook:

COUNTY OF HURON.

TOWNSHIPS.	Loss of life.	Number of families.	MEMBERS OF FAMILY.				BUILDINGS.				Fences, lumber, etc. Value.	Crops. Value.	Clothing, bedding, etc. Value.	Household furniture. Value.	Stock. Value.	Farming implements. Value.	Fruit-trees. Value.	Total loss. Value.
			Number.	Males.	Females.	Children under 16.	Houses.	Barns.	Granaries.	Value.								
Bingham.....	21	150	705	389	316	291	110	179	20	Dols. 68,518	Dols. 14,382	Dols. 39,371	Dols. 13,530	Dols. 10,829	Dols. 9,274	Dols. 12,658	Dols. 10,612	Dols. 174,124
Bloomfield.....	11	62	290	143	147	153	36	41	2	12,485	3,753	12,160	4,300	3,229	1,783	2,789	1,242	41,741
Chandler.....	..	15	85	43	42	51	1	13	..	1,190	418	2,272	16	3	51	275	180	4,435
Colfax.....	..	49	225	113	112	103	15	18	1	6,574	2,838	4,493	1,598	1,653	393	1,228	973	19,750
Dwight.....	..	31	175	87	88	87	15	32	..	5,480	2,196	4,982	1,057	1,247	295	872	589	16,718
Fair Haven.....	..	2	6	3	3	2	..	1	..	400	..	737	10	..	..	53	..	1,200
Gore.....	1	30	159	83	76	82	14	24	1	8,830	994	5,906	790	1,660	448	1,371	324	20,363
Grant.....	..	17	74	36	38	42	9	1	1	571	335	325	269	..	..	85	6	1,591
Hume.....	..	5	30	15	15	5	1	9	2	1,775	606	1,480	..	25	..	292	..	4,178
Huron.....	2	97	430	233	197	197	41	51	4	65,208	4,811	11,556	5,729	4,518	4,000	2,807	2,231	100,360
Lake.....	..	8	18	8	10	13	1	7	1	650	62	775	7	40	..	145	30	1,709
Lincoln.....	1	29	119	59	60	53	13	15	..	2,510	1,575	2,802	815	1,278	462	645	479	10,566
Meade.....	1	32	156	83	73	67	13	21	2	3,425	1,128	4,518	758	798	106	529	232	11,524
Oliver.....	..	11	60	29	31	35	4	3	1	625	307	708	302	294	25	277	..	2,478
Paris.....	23	172	860	400	410	423	116	235	21	99,445	18,001	36,516	8,418	7,994	6,482	10,014	15,430	202,500
Port Austin.....	..	2	1	1	..	..	..	1	..	200	..	150	60	75	..	..	..	485
Rubicon.....	14	142	708	351	357	377	90	121	3	74,335	16,878	26,008	12,261	8,185	4,803	6,820	1,866	151,156
Sand Beach.....	3	18	87	47	40	40	11	9	..	2,430	351	2,590	1,005	1,088	875	677	93	8,669
Sheridan.....	..	53	275	149	126	117	30	13	5	10,309	2,860	11,163	3,996	52	2,451	1,955	1,673	34,459
Sherman.....	..	20	117	59	58	61	13	23	..	8,050	1,690	5,049	1,935	1,380	510	1,252	925	20,791
Sigel.....	1	65	274	156	118	106	42	52	6	13,975	4,934	13,299	6,952	3,266	4,745	3,926	2,987	54,084
Verona.....	..	135	612	316	296	260	97	91	17	111,651	10,962	28,114	11,316	22,075	20,005	14,970	7,199	226,292
To Dec. 31, 1881.	78	1,140	5,466	2,853	2,615	2,565	673	960	87	493,836	88,531	214,974	75,214	69,659	56,248	63,640	47,071	1,109,173
Statements rec'd since Dec. 31.	..	6	33	16	17	17	3	1	..	935	366	535	93	225	108	411	..	2,673
Total to Jan. 31, 1882.....	78	1,146	5,499	2,869	2,630	2,582	676	961	87	494,771	88,897	215,509	75,307	69,884	56,356	64,051	47,071	1,111,846

COUNTY OF SANILAC.

TOWNSHIPS.	Loss of life.	Number of families.	MEMBERS OF FAMILY.				BUILDINGS.				Fences, lumber, etc. Value.	Crops. Value.	Clothing, bedding, etc. Value.	Household furniture. Value.	Stock. Value.	Farming implements. Value.	Fruit-trees. Value.	Total loss. Value.
			No. persons in families.	Males.	Females.	Children under 16.	Houses.	Barns.	Granaries.	Value.								
Argyle.....	9	53	295	150	145	143	21	83	1	5,084	2,059	6,443	1,256	936	432	733	347	17,340
Austin.....	4	147	656	364	322	263	88	183	17	58,076	15,748	32,246	11,676	10,317	10,622	11,396	11,270	161,351
Bridgelandhampton.....	..	43	170	89	81	72	5	16	2	2,840	8,108	5,580	324	147	579	630	120	13,273
Buel.....	..	31	151	75	76	69	10	17	..	4,017	1,831	3,180	313	614	809	9	480	11,687
Custer.....	..	22	100	49	51	52	7	4	..	950	155	847	408	180	25	286	73	2,924
Delaware.....	9	147	679	365	314	350	109	135	2	44,785	5,830	29,014	14,135	6,077	2,918	19,430	70	122,459
Elk.....	..	96	505	263	242	147	34	41	3	12,605	7,831	6,861	1,616	1,311	257	1,346	946	82,773
Elmer.....	..	49	215	121	94	83	4	6	..	925	1,313	1,447	20	10	..	84	63	3,862
Evergreen.....	..	54	234	138	96	96	14	39	2	3,559	1,169	4,558	1,243	1,041	707	1,172	2,253	15,702
Fremont.....	..	3	6	2	4	2	..	3	..	750	71	635	20	..	40	130	..	1,656
Forester.....	4	122	549	299	250	204	59	73	3	25,215	8,080	19,981	8,326	12,423	4,661	2,948	3,958	85,592
Flynn.....	2	65	225	124	101	104	16	21	1	2,700	7,697	3,772	805	880	318	506	415	17,093
Greenleaf.....	..	100	514	264	250	223	60	57	6	25,198	4,573	19,638	11,649	122	1,780	5,819	7,441	76,220
Lamotte.....	2	40	149	79	70	62	16	14	1	2,945	845	2,906	703	953	290	135	770	9,947
Lexington.....	..	16	89	44	45	40	6	10	..	4,450	1,424	4,044	..	150	52	961	25	11,106
Maple Valley.....	..	36	158	91	67	77	9	15	2	1,365	522	2,447	357	235	72	431	380	5,759
Marion (East).....	4	89	465	259	206	236	57	80	16	27,908	8,098	22,386	4,310	4,534	2,752	4,760	6,971	81,519
Marion (West).....	9	15	60	31	27	27	5	10	2	2,811	992	2,035	357	419	431	236	55	7,866
Marlette.....	..	65	235	162	123	96	11	25	6	4,670	3,245	7,147	538	589	574	1,311	960	19,029
Minden.....	4	70	329	180	149	155	43	67	9	31,622	11,205	20,550	6,355	5,424	2,035	4,041	1,905	53,197
Moore.....	8	80	357	194	163	157	33	44	2	8,457	3,524	5,201	1,302	2,949	826	821	1,302	24,382
Sanilac.....	..	29	135	70	65	84	10	26	5	6,795	1,514	8,002	555	721	195	599	283	18,664
Speaker.....	..	44	200	107	93	85	9	13	..	1,917	1,810	2,438	442	662	22	421	520	8,292
Watertown.....	5	68	294	159	135	113	14	11	..	4,091	5,409	6,409	400	350	80	109	285	17,083
Washington.....	..	85	393	216	177	169	40	53	9	13,462	5,849	7,248	3,080	3,454	1,774	2,361	506	37,684
Worth.....	..	2	16	8	8	10	1	1	..	225	..	50	75	..	..	..	..	850
To Dec. 31, 1881.	60	1,571	7,259	3,903	3,356	3,094	681	997	89	297,422	103,897	225,065	70,450	54,498	31,821	61,809	41,348	886,310
Statements rec'd since Dec. 31.	..	75	417	205	212	219	9	10	..	1,910	6,367	2,608	217	453	105	729	293	12,582
Total to Jan. 31, 1882.....	60	1,646	7,676	4,108	3,568	3,313	690	1,007	89	299,232	110,264	227,673	70,667	54,951	31,926	62,538	41,641	898,892

RECAPITULATION BY COUNTIES.

COUNTIES.		Loss of life.	Number of families.	MEMBERS OF FAMILY.			BUILDINGS.				Fences, lumber, etc. Value.	Crops. Value.	Clothing, bedding, etc. Value.	Household furniture. Value.	Stock. Value.	Farming implements. Value.	Fruit-trees. Value.	Total loss. Value.	
				No. persons in families.	Males.	Females.	Children under 16.	Houses.	Barns.	Granaries.									Value.
Huron..	78	1,146	5,499	2,869	2,630	2,582	676	961	87	494,771	88,897	215,509	75,807	69,884	56,856	64,051	47,071	1,111,846	
Sanilac..	60	1,646	7,676	4,108	3,568	3,818	690	1,007	89	299,232	110,264	227,698	70,667	54,951	31,926	62,538	41,641	898,892	
St. Clair..	...	49	179	107	72	78	4	10	2	2,367	1,267	4,152	397	700	126	417	96	9,522	
Lapeer..	...	25	127	73	54	65	1	4	1	450	1,842	1,132	10	.....	135	226	209	4,004
Tuscola*	...	250	1,125	.....	.....	.....	100	125	...	.....	.....	.....	.....	.....	.....	.....	.....	250,000
Total.	188	2,916	14,606	7,157	6,824	6,088	1,481	2,007	179	796,820	202,270	448,466	146,381	125,535	83,548	127,282	89,017	2,274,264	

The third table (recapitulation) gives the losses by counties, including the estimated losses in Lapeer, St. Clair, and Tuscola Counties. These statistics vary but little from those gathered by the State Commission. In addition to the above, forty school-houses were burned, twelve in Huron County and twenty-eight in Sanilac; also eight churches, six in Huron and two in Sanilac.

In the matter of relief, the Port Huron Committee report receipts up to February 11, 1882:

Cash subscriptions.....	\$192,881 44
Produce, clothing, and other supplies.....	255,960 26
Total.....	\$448,791 70

The Detroit Relief Committee reported receipts to Oct. 10, 1881:

Cash subscriptions.....	\$207,274 89
Produce, clothing, and other supplies.....	74,736 88
Total.....	\$282,010 72

State Relief Commission—successor to Detroit Relief Committee, by appointment of the Governor—to February 11:

Cash subscriptions.....	\$199,800 05
Estimated supplies.....	76,000 00
Total.....	\$275,800 05

Total cash and supplies..... \$1,006,102 47

In addition, Bay City, the Saginaws, and other cities of the State sent large contributions, both in money and supplies, to the local committees at different points.

The Commissioner of Insurance says in his preliminary report for 1881 that the losses were but slightly covered by insurance. Also, "the two mutual companies of those counties had about \$80,000 of losses, none of which have been paid. Only twenty stock companies had losses in the burned district, aggregating \$101,-942.66. This amount was promptly paid, nearly one half by a single company, the Agricultural Insurance Company, of Watertown, N. Y."

The matter of further relief will be laid before the Legislature at an extra session, to be held February 23, 1882, and it is estimated that an appropriation of \$300,000 will be needed to meet the taxes levied upon the property of the sufferers under assessments made or ordered before the fire, and to furnish the seed for spring crops, and other supplies necessary, until the harvest of 1882 can be gathered. The unusually mild winter has proved exceedingly

favorable, as the hastily constructed houses—many of them rude shanties—were naturally not fire-proof.

MINNEAPOLIS AND ITS MILLS. Minneapolis, Minnesota, situated at the Falls of St. Anthony, of the Mississippi River, has become the most important milling center of the Northwest. Power of immense capacity is supplied from the Mississippi River, which is nearly one thousand feet wide at this place, has a fall of seventy-five feet within the space of a mile, and has been utilized to the supply of twenty-eight flouring-mills and several saw-mills. With the help of a grant from the Government of the United States, the gradual recession of the falls from the wearing away of the soft sandstone which forms part of the river-bed has been arrested by the construction of a subterranean wall of concrete across the river behind the falls, and for a distance of fifty feet into the banks on either side, and by covering the falls themselves with heavy crib-work filled with stones, and a flooring of timber. At a short distance above the falls, the water is turned into a canal sixty feet wide and fourteen feet deep, by which it is carried in a course parallel with the river to the mills. The mills have a capacity which demands twenty million bushels of wheat in a year, a quantity representing an area of 1,250,000 acres of land in cultivation. The grain is purchased by agents representing an association of the millers, who canvass the tributary wheat-growing districts for three months after the harvest of each year, to secure the bulk of the year's supplies, and forestall the competition of Eastern speculators. The wheat is distributed among the several mills in proportion to their capacity for grinding. While waiting to be ground it is stored in the mills, which can take care of about 2,500,-000 bushels; in the elevators of the city, which can hold about half that amount; and at outlying stations on the various lines of railway. The hard spring varieties of wheat are most sought after for making into flour, and this has raised the value of those varieties over that of winter wheat, which formerly commanded the highest price.

The total productive capacity of all the mills is computed at 28,000 barrels of flour a day. The three mills of Messrs. Washburne, Crosby & Co. possess a motive force of 3,550 horse-

* Not in Port Huron district—losses estimated from best sources available.

power, have a capacity for making 6,500 barrels of flour daily, and employ 281 persons. Their new A mill of seven stories is carried up in two distinct buildings, communicating by wrought-iron fire-proof doors, and is fitted with thirty run of stone, sixty sets of rollers, and machinery for making the largest possible quantity of flour of the best quality attainable from a given quantity of wheat. The old-fashioned, rude grinding of wheat and separating the flour is replaced by methods that have been elaborated with great skill, and which involve many processes, employing varied machinery and ingenious appliances. The chief objects sought to be attained are the gradual breaking and bruising of the grain so as to keep the broken particles rough and "alive"; repeated reductions of the middlings, or that part of the grain that lies immediately below the husk, which, formerly treated as of inferior quality, is now made to yield the strongest and best flour; the separation of every part of the flour from the bran; and the judicious blending of the flour obtained from the several reductions. The wheat, cleaned by blasts, is separated into lots of similar sizes; the fuzzy tails are removed by ending-stones. The grain is then passed through corrugated, chilled-iron rollers, the corrugations of which range from eight to forty to the square inch, which bruise the grain without grinding it. This is on the ground-floor. The bruised grain is thence raised to the bolting-machines, where it is passed through gauze cloths of different textures, and whence it is sent down between finer corrugated rollers running at a speed of from one hundred and fifty to three hundred revolutions per minute. These processes of reduction and sifting are repeated six or seven times, the third giving more flour than the first two reductions, and the fifth giving the best rising flour and the strongest in albuminoids. About ten different grades of flour are produced by these reductions, some of them being mixed grades. As precautions against accident, electric bells are connected with different parts of the machinery, to give the alarm on the occurrence of any choking or other misadventure; and suction-pipes pass from the stones and rollers to prevent heating of the rapidly revolving surfaces, and to carry the dangerous explosive dust into the upper stories, where it is received by webs of flannel, and is swept off and driven into a discharge-tube by the automatic working of a traveling brush. The warm air, thus separated from dust, is returned to the mill and made to aid in reducing the cost of heating. An electric process has been tried for separating the flour from the bran, but was found not to be effectual; and a cleaner is used, consisting of iron disks fitted with pegs, one set of which is stationary, the other revolving at the rate of two thousand revolutions in a minute, which strips every particle of flour from the woody husk. The bran is packed, while still fresh, in bags containing two hundred pounds each, and is sold

generally to dairymen, at prices ranging from \$6 at the mill, to \$12 for two thousand pounds at other places.

C. A. Pillsbury's A mill will be, when finished, the largest mill in the world, and when fully equipped will require a daily supply of 25,000 bushels of wheat. It is 180 feet long, 115 feet wide, and 117 feet high to the wall-plate. The foundation side-walls, of limestone, are eight and a half feet thick, and the walls even as high as the seventh story are two and a half feet thick. In the basement are the massive fore-bay to convey the water from the canal especially built for this mill, the flumes, and provision for the turbine-wheels. Seventeen thousand cubic feet of water rush every minute with a fall of fifty-three feet down each flume, and communicate to each turbine-wheel an estimated force of 2,400 horse-power. The mill is intended to contain, when completed, twenty pairs of stones, with Behem's patent exhausts; three hundred sets of rollers, half of them corrugated, half smooth, for finishing work; two hundred purifiers, fitted with Hardenberg's dust-catchers; dust-machines and separators of various kinds. Mr. Washburne, of Washburne, Crosby & Co.'s mill, says that, with skillful management of the modern machinery, he is able to procure as fine flour from No. 3 or No. 4 wheat as was formerly obtained from No. 1 or No. 2. A varying proportion of different kinds of flour is made, according to the demand and the quality of wheat used. The ordinary out-put is forty per cent of patent, fifty per cent of baker's, and ten per cent of low-grade flour. The foreign export trade did not exist five years ago. The Washburne mills now send thirty per cent of their product abroad, chiefly as baker's flour. Belgium and Germany have hitherto taken large consignments, especially of low grades; but it is anticipated that the increased duties will now shut inferior brands out of Germany. Mr. Pillsbury sends nearly half of his flour to Europe, the most of it as baker's flour. Many English bakers are said to use a mixture of three parts of St. Louis flour with one part of the stronger Minneapolis flour. From two hundred and eighty to three hundred pounds of wheat, according to the quality, are used to make a barrel of flour. The bran, which is estimated to constitute from eighty to ninety per cent of this quantity, is expected to pay the expense of the grinding, etc., and will do so when it can be sold for its full price.

Besides the extensive system of flouring-mills, seventeen lumber-mills are in operation at Minneapolis, producing about 2,500,000 superficial feet of lumber during the season. The timber that is used is got chiefly from around the lakes and the river-banks three hundred miles up the Mississippi and its tributaries, and is nearly all white pine. Some oak and maple are brought by railroad from the Eastern States, and walnut and cedar are brought in small quantities from Missouri. The logs are drift-

ed or rafted on the spring floods to the main boom, a few miles above the city, where 100,000,000 feet may be stored, and whence they are taken, when needed, according to the owners' marks upon them, to the several mills. When at full work, the mills on the two sides of the river cut up a million feet a day.

The whole number of mills and their capacity have more than doubled since 1870, and the population of the city has increased from 18,079 to 60,000.

MINNESOTA. The Legislature, consisting of 29 Republicans, 11 Democrats, and 1 Greenbacker in the Senate, and 86 Republicans, 16 Democrats, and 4 Greenbackers in the House, assembled at the beginning of the present year and adjourned on the 9th of March. On the 19th of January S. J. R. McMillan, Republican, was re-elected United States Senator. The most important act of the session was the one providing for the settlement of the old railroad bonds at fifty cents on the dollar. The history of these bonds was summarily as follows:

In March, 1857, Congress granted to Minnesota six alternate sections of land per mile to aid the construction of six different lines of railroad. This grant was divided among four different railroad companies. The sanguine expectations excited by this liberal grant were suddenly cut short by the financial crisis of 1857, followed by the general suspension of Western railroad enterprises. In this emergency the railroad companies applied to the Legislature for aid. After a winter of active discussion a constitutional amendment was submitted by the Legislature to the people for a loan of State credit to the several companies. On April 15, 1858, the amendment was adopted by a vote of about 35,000 for to 8,000 against. It authorized the bonds of the State to be issued to the four companies (not to exceed \$1,250,000 to each company, or \$5,000,000 in all) as construction advanced, at the rate of \$10,000 per mile for each mile of graded road, and \$10,000 for each mile of completed road. The amendment pledged the faith and credit of the State for the payment of the bonds in the event that the companies should make default in the payment of the interest or principal, and as security therefor exacted certain securities from the companies. Among others, first, a conveyance to the State of the first two hundred and forty sections of land to which each road was entitled prior to construction; and, second, a first mortgage on all the lands, franchises, etc., of the several roads, and to this was added a general penalty of forfeiture. The companies proceeded to grade the roads, and bonds therefor were issued to the amount of \$2,275,000, when further construction was suspended. The companies found themselves unable to negotiate the bonds at prices sufficient to enable them to go on with the work. They defaulted in the payment of the interest on the bonds—when in 1860 the State, through its then Governor, foreclosed its mortgage on the lands, franchises, road-bed, etc., and took possession of the same. Though the constitutional amendment provided that these securities should be devoted to the payment of the interest and principal of the bonds, the Legislature proceeded soon after to turn over these lands and franchises to other companies free of all lien. The Legislature of 1860 proposed two constitutional amendments which were adopted in November of that year, one of which provided that there should be no further issue of bonds under the loan amendment, and that it should be expunged from the Constitution, reserving to the State all rights, remedies, and forfeitures accruing thereunder. The other was an amendment to section 2, Article IX, of the Constitution, in the following words:

"But no law levying a tax or making other provisions for the payment of the bonds, denominated Minnesota State railroad bonds, shall take effect or be in force until such law shall have been submitted to the people and adopted by a majority of the electors voting for the same."

Immediately following the adoption of these amendments, the public attention was engrossed by the war for the Union and the Indian war. It was not till 1866 that any further action was taken by the Legislature. In that year an act was passed for the appointment of three commissioners to ascertain what the bonds cost the holders, and on what terms they would surrender them to the State.

At the next session of the Legislature, 1867, an act was passed to provide a sinking fund for the adjustment of the bonds, from the proceeds of the internal improvement lands. The minimum price of the lands was fixed at \$3 per acre, and they were to be appraised and sold in the same manner as school lands. The act provided that whenever the sinking fund should amount to \$20,000, but not oftener than once a year, the State Treasurer should advertise for proposals from the bondholders for the surrender of an amount of bonds in exchange for said money; the person offering his bonds at least price to be entitled to the money. This act, submitted to the people in November, was rejected.

In 1870 the Legislature passed an act ostensibly setting apart the proceeds of the 500,000 acres of internal improvement lands, but really the lands themselves, for the payment of the bonds. The act required 2,000 of the bonds to be deposited with the State Auditor on or before the first Wednesday in September—with all unpaid coupons attached, with a written contract on the part of the owner agreeing to purchase such lands to the extent of the bonds so deposited, and in case of failure to purchase, authorizing the Auditor to set apart an amount of lands which, at the minimum price, fixed at \$8.75 per acre, would equal the bonds and coupons so deposited. In other words, each bondholder was required to be on hand to select and purchase, for the sum of not less than \$8.75 per acre, an amount of lands equal at that price to the amount of his bonds and coupons, or, if he could not do it himself, to allow the State Auditor to do it for him.

This proposition was ratified by the people, but when the first Wednesday of September came it was found that less than 2,000 of the 2,275 bonds had been deposited with the State Auditor, and this adjustment fell through. Selah Chamberlain and other bondholders accepted this proposition and deposited their bonds, but a minority either refused or failed to accept.

At the next session of the Legislature in 1871 another act was passed to test the validity and provide for the adjustment of the bonds so deposited. Under this act the Governor was empowered to appoint three disinterested persons learned in the law, either residents or non-residents of the State, to constitute a board of commissioners to determine whether the bonds were a legal and equitable obligation of the State, and if so to ascertain and award the amount due upon such bonds upon the basis of the cost of such bonds to the holders thereof, with interest upon the cost at the rate of 7 per cent per annum, and to file their determination with the Governor before July 1, 1871.

In case the commissioners decided that the bonds were a legal obligation against the State and should award the amount thereof on the basis of the cost to each holder, new bonds were to be issued in lieu thereof at the rate of 2 per cent the first year, 3 per cent the second, 4, 5, and 6 respectively for the subsequent three years, and 7 per cent thereafter. The tax on the gross earnings of the railroad companies was set apart to pay the interest and principal of the new bonds. This proposition, the only one ever made by the Legislature for a quasi-judicial determination of the legal validity of the bonds, was rejected by the people. In March, 1878, the Legislature passed

another act providing that the 500,000 acres of internal improvement lands, and the funds arising therefrom, should be exchanged for the bonds and unpaid coupons and other claims, at a rate which should make the whole amount of lands equal to the whole amount of bonds and other claims, each bondholder to have a preferred choice of lands in the order in which his bonds were deposited—the funds derived from the sale of the lands or stumpage to be treated in the same way. This act was submitted to the people in November, 1878, and was rejected by a majority of the popular vote.

The act under consideration is the fifth attempt at adjustment, and provides for submission to the people only in the event that the tribunal of five judges to which the question is submitted shall decide that the constitutional amendment providing that no law for the payment of the principal or interest of the bonds shall take effect until approved by a majority of the popular vote thereon is valid.

The questions involved were submitted to the Supreme Court during the summer, which decided the act to be void, on the ground that it contained a delegation of legislative power to the tribunal, whereas the Legislature should itself have taken the responsibility of deciding upon the validity of the amendment. But the Supreme Court at the same time held the amendment of 1860 invalid, as contravening that clause of the Federal Constitution which prohibits any State from impairing the obligation of contracts. The court held that the requirement that all acts on the subject should be submitted to the people affected, not merely the remedy, but the obligation. This decision left the Legislature free to settle the question of these bonds without submitting its acts to the people. The Governor accordingly called an extra session, which began on the 11th of October, and continued for thirty-nine days. The Governor, in his message to this session, says as follows:

My individual preference is that every dollar of the debt represented by the Minnesota State railroad bonds should be paid in full, principal and interest. I believe that no course short of this is consistent with the honor and integrity of a sovereign State, so far as relates to its own voluntary action. But inasmuch as the holders of the bonds have upon their own motion proposed an adjustment upon more favorable terms, an opportunity is presented for discharging the whole debt by partial payment, without any necessary compromise of our good name.

The practical question simply is whether we shall now save some \$4,000,000 to the State without loss of honor, or incur the reproach of repudiation, keep going a source of constant annoyance and an opportunity for political jugglery, and in the end pay the debt in full; for it can not be possible that an intelligent and progressive people, with moral and religious convictions, can refuse the final payment of an honest debt. An individual who does this while able to pay, justly incurs the scorn of his honest neighbors. What must be thought of a prosperous State that does it, using its sovereignty as its shield?

The holders of more than \$2,000,000 of the whole issue of \$2,275,000 have deposited their bonds with the State Auditor, accompanied with a written agreement to accept, in new bonds or cash, 50 per cent of the nominal amount of such surrendered bonds and coupons, in accordance with the act of last March. Many of the bondholders have demanded the return

of their bonds since the decision of the Supreme Court, which demand has been refused on the ground that the contract remains binding upon the parties, the decision having affected only the means of performance, and that the bonds can not fairly be withdrawn until the Legislature shall have taken action in the matter. Others, while still offering liberal concessions, express their unwillingness to adhere to their original proposition in view of the decision of the Supreme Court and the marked enhancement of the value of their bonds; but Mr. Selah Chamberlain, the holder of about one half of these bonds, has adhered to his contract and renewed his proposition to accept 50 per cent of the amount in full satisfaction of his claim, on the express condition that the adjustment be consummated during the present year; and there is reason to believe that most of the other bondholders will adhere to similar terms of settlement if speedily concluded. We have thus an opportunity to honorably settle this debt upon terms of rare liberality; and it is because the soundest expediency and the imperative demands of justice thus unite to require prompt action that I have felt it my duty to convene you in extra session.

The act of the last Legislature, proposing an amendment to the Constitution devoting the proceeds of the internal improvement lands to the payment of the adjustment bonds has been rendered inoperative by the decision of the Supreme Court. It will, therefore, be necessary to promptly readjust and re-enact its provisions to conform to the new action to be taken, in order to submit the proposed amendment to the people at the approaching general election. The average price realized thus far for the lands sold is about \$7 per acre, and the fund from such sales already amounts to \$800,000. In view of the rapid settlement of the country it is believed that the total sum which will be finally realized from the sale of these lands will reach \$4,000,000, a sum nearly or quite sufficient to pay the whole indebtedness without recourse to taxation. That there may be no wrong impression on your minds regarding the whole amount due on these bonds, I would say that by a former decision of our Supreme Court, past-due coupons draw interest, as well as the bonds to which they are attached, and should interest be computed in accordance with this decision, the whole debt would amount, on December 1, 1881, to about \$8,200,000, and should the pending proposition be consummated, the saving to the State will thus be about \$4,000,000.

The Legislature promptly passed an act in accordance with the Governor's views, the first two sections of which are as follows:

SECTION 1. Any holder of said Minnesota State railroad bonds who desires to avail himself of the provisions of this act, must deposit his bonds and coupons with the State Auditor, accompanied by an agreement in writing, obligating himself to accept in lieu of said bonds and coupons and in full payment and satisfaction thereof, fifty per cent of the amount nominally due upon said bonds and coupons, less any deductions hereinafter provided for, in cash, or in new bonds of the State, as provided for in this act: *Provided, however,* That where there has been a compliance with the requirements of section one (1) of the act entitled "An act providing for the adjustment of the Minnesota State railroad bonds," approved March 2, A. D. 1881, the same shall stand and be considered as a compliance with the provisions of this section.

SEC. 2. It shall be the duty of the Governor and State Auditor to cause to be prepared new bonds of the State, which new bonds shall be styled Minnesota State railroad adjustment bonds, and bear date July first (1st), one thousand eight hundred and eighty-one (1881), and shall be of the denomination of one thousand dollars (\$1,000) each, and shall be, and on their face shall be made payable after ten years and not more than thirty years from their date, at the option of the State of Minnesota, in the city of New

York, with interest, after January first (1st), one thousand eight hundred and eighty-four (1884), payable semi-annually in the city of New York, at a rate not exceeding five per cent per annum, and shall have coupons attached for such interest, and shall pledge the faith and credit of the State to the payment thereof. Said new bonds shall be signed by the Governor and attested by the Secretary of State, under the great seal of the State, and the coupons shall have the names of the Governor and Secretary of State thereto, and the bonds shall be countersigned and registered by the State Auditor, and, upon being so executed, countersigned and registered, and as soon as practicable after the passage of this act, the Governor shall deliver to the several owners of the Minnesota State railroad bonds, their heirs or legal representatives, who shall have deposited their bonds with the State Auditor as aforesaid, such an amount of the new bonds as shall be equal to fifty per cent of the par value of principal and interest of said Minnesota State railroad bonds and the coupons thereto attached, on the first (1st) day of January, one thousand eight hundred and eighty-four (1884), less any deduction resulting from other provisions of this act, said interest to be computed at five per cent per annum after the passage of this act, and take from said several owners and holders of said Minnesota State railroad bonds so deposited as aforesaid, a release under seal, reciting the number and denomination of the State railroad bonds, which said new bonds are taken in payment and settlement for, and acknowledging full satisfaction from the State of all liability on said Minnesota State railroad bonds so owned and deposited by such person, which release shall be filed in the State Auditor's office. The first coupons shall be made payable on the first (1st) day of July, one thousand eight hundred and eighty-four (1884), and thereafter on the first days of January and July in each year, until the maturity of said bonds; provided that at its election the State may, and in case said bonds shall draw a less rate of interest than five per cent shall, in lieu of said bonds, pay cash (less any deduction as aforesaid) to the several holders of said Minnesota State railroad bonds so deposited as aforesaid, or any of them, a sum equal to fifty per cent of the par value of principal and interest of said Minnesota State railroad bonds and coupons on the day when said payment is made, taking the release under seal from the holder as in the case of delivery of bonds hereinbefore provided; and to that end the Governor, Auditor, and Treasurer of State are hereby empowered in their discretion to negotiate, at not less than par, the bonds to be issued under the provisions of this act, and apply the proceeds to the payment of said holders of Minnesota State railroad bonds, as hereinbefore provided. And for the purpose of carrying out the provisions of this proviso, said bonds may be made to bear interest from January 1st, A. D. 1882, payable semi-annually thereafter, and in case of the delivery of said new bonds, any fractional sum less than one thousand dollars may be paid in cash; and whenever any of said Minnesota State railroad bonds or the coupons thereof, or any bond of the State is paid, under the provisions of this act or otherwise, the Treasurer or officer paying the same shall stamp, or cause to be stamped, thereon in large letters the words "Canceled and paid," and on the first Monday in each month the State Treasurer shall in [the] presence of the Governor and State Auditor burn up all bonds and coupons that shall have been canceled and paid by him during the preceding month or any previous time, and said Treasurer shall keep the number and description of the bonds so destroyed, which shall be certified to be correct by said officers present at their destruction, and be included in the annual report of the State Treasurer.

The act also provides for the settlement on similar terms of certain judgments, and of certain claims against the railroad companies. By the close of the year nearly all of the bonds

had been taken up and settled in accordance with the terms of this act. An act was also passed providing for the application of the moneys of the internal improvement land fund to the payment of the principal and interest of the Minnesota State railroad adjustment bonds, which is to take effect if ratified by the people at the next general election. Another act provides for organizing the county of Kanabec, and fixes the county-seat at Brunswick. Acts were also passed for the assessment and taxation of telegraph and telephone lines, and for the uniform taxation of mining property and products. The State was divided into five congressional districts, as follows:

1. The counties of Houston, Fillmore, Mower, Freeborn, Steele, Dodge, Olmsted, Winona, and Wabasha constitute the first congressional district.

2. The counties of Faribault, Blue Earth, Waseca, Watonwan, Martin, Cottonwood, Jackson, Murray, Nobles, Rock, Pipestone, Lincoln, Lyon, Redwood, Brown, Nicollet, Yellow Medicine, Lac-qui-Parle, Sibley, and Le Sueur constitute the second congressional district.

3. The counties of Goodhue, Rice, Dakota, Scott, Carver, McLeod, Meeker, Kandiyohi, Renville, Swift, and Chippewa constitute the third congressional district.

4. The counties of Washington, Ramsey, Hennepin, Wright, Pine, Kanabec, Anoka, Chisago, Isanti, and Sherburne constitute the fourth congressional district.

5. The counties of Mille Lacs, Benton, Morrison, Stearns, Pope, Douglas, Stevens, Big Stone, Traverse, Grant, Todd, Crow Wing, Aitkin, Carlton, Wadena, Otter Tail, Wilkin, Cass, Becker, Clay, Polk, Beltrami, Marshall, Kittson, Itasca, St. Louis, Lake, and Cook constitute the fifth congressional district.

In March, United States Senator Windom, having been made Secretary of the Treasury in President Garfield's Cabinet, resigned, and the Governor appointed Alonzo J. Edgerton to fill the vacancy until the meeting of the Legislature. After President Garfield's death Mr. Windom resigned his position as Secretary, and on the 25th of October he was again elected United States Senator by the Legislature.

The product of lumber for the year on the upper Mississippi was 339,162,197 feet; also 128,432,250 shingles, and 70,380,750 laths.

The estimated amount of merchantable pine standing May 31, 1880, according to the returns of the census, was as follows:

WHITE PINE (*Pinus strobus*).

STANDING PINE.	No. of feet (board-measure).
Rainy Lake and Rainy Lake River.....	300,000,000
Shore of Lake Superior.....	800,000,000
St. Louis River and tributaries.....	1,500,000,000
Mississippi River and tributaries.....	2,900,000,000
Red Lake River and other tributaries of the Red River.....	600,000,000
Total.....	6,100,000,000
Cut for the census year, ending May 31, 1880 (including 187,836,000 shingles, and 88,088,000 laths).....	540,997,000

The pine-forest gradually changes in character and decreases in productiveness as it reaches northward. Lakes, and tamarack and cedar (*Thuja occidentalis*) swamps, are common, and cover large areas; the pine-trees are

small and scattered, furnishing lumber of an inferior quality.

In the belt of hard-wood extending west and south of the pine region, and consisting of white, red, and burr oak, sugar-maple, poplar, etc., it is estimated that 3,840,000 acres of forest remain, capable of yielding an average of fifteen cords of wood to the acre, or 57,600,000 cords.

The cut for the census year ending May 31, 1880 (exclusive of 7,825,000 staves and 547,000 sets headings), was 36,884,000 feet.

The birch-lands are interspersed with tamarack swamps, and, besides the prevailing birch (*Betula papyracea*) and scrub pine (*Pinus Banksiana*), contain patches of white pine covering, in the aggregate, probably one tenth of their area.

There are 3,100 miles of railroad in the State. The State Reform School had 166 inmates during the year. The following is a summary of the condition of the banks of the State for the year 1881, as compared with the previous year :

No.	BANKS.	1881.	1880.	Increase.
SURPLUS FUND.				
27	National banks.....	\$981,725 88	\$987,008 67	\$44,722 21
9	State banks.....	104,421 84	69,931 89	34,489 95
8	Savings-banks.....	17,776 94	17,000 00	776 94
6	Private banks (unofficial).....	87,500 00	67,000 00	20,500 00
42	Total.....	\$1,191,424 66	\$1,090,935 56	\$100,489 10
DEPOSITS.				
27	National banks.....	\$18,010,427 47	\$9,586,339 29	\$8,424,088 18
19	State banks.....	5,518,520 51	3,186,735 62	2,332,034 89
6	Savings-banks.....	1,580,186 84	991,404 88	588,781 96
52	Total.....	\$20,109,434 82	\$13,764,479 79	\$6,344,955 03
LOANS.				
27	National banks.....	\$14,949,898 80	\$13,112,235 84	\$1,837,162 96
19	State banks.....	6,494,817 89	4,496,592 19	1,998,225 20
6	Savings-banks.....	1,466,392 96	908,234 20	558,158 76
52	Total.....	\$22,910,609 15	\$18,517,062 23	\$4,393,546 92

The following exhibits the insurance business of two years :

INSURANCE.	1879.	1880.
RISKS WRITTEN.		
Fire.....	\$74,334,407 00	\$97,308,924 00
Inland.....	5,753,189 00	13,181,602 00
Total risks written.....	\$80,097,596 00	\$110,485,526 00
PREMIUMS RECEIVED.		
Fire.....	\$1,000,460 92	\$1,266,893 62
Inland.....	19,670 09	48,555 87
Total premiums received.....	\$1,020,131 01	\$1,310,749 49
LOSSES INCURRED.		
Fire.....	\$611,775 67	\$1,366,238 13
Inland.....	14,466 64	25,103 61
Total losses incurred.....	\$626,242 31	\$1,391,341 74
LOSSES PAID.		
Fire.....	\$592,890 30	\$1,320,587 72
Inland.....	12,928 09	30,183 78
Total losses paid.....	\$605,818 39	\$1,350,720 50

The life-insurance business of the State for nine years is shown in the following statement:

YEARS.	No. of policies written.	Amount insured.	Premiums received.	Losses paid.
1872...	2,332	\$4,487,905	\$488,033 52	\$135,898 79
1873...	2,649	4,304,572	441,128 81	201,054 00
1874...	3,583	6,053,259	497,704 26	201,797 46
1875...	3,592	5,846,082	518,658 33	219,050 63
1876...	1,997	3,200,964	432,667 04	258,529 94
1877...	1,289	1,967,273	369,799 40	203,865 01
1878...	960	1,864,954	316,553 18	142,677 11
1879...	1,204	2,342,512	328,187 61	162,717 05
1880...	1,302	2,327,361	353,637 47	238,897 74
Total..	19,481	\$31,894,882	\$3,741,369 62	\$1,763,936 78

The State Commissioner of Statistics reports the following agricultural data, showing the total acreage, the total yield, the average yield per acre for the year 1881, and the total acreage for the year 1881, of the crop of wheat, corn, oats, rye, barley, buckwheat, potatoes, beans, flaxseed, timothy-seed, clover-seed, and sugar-cane sirup :

TOTALS OF ACREAGE AND CROPS.				
PRODUCT.	Total acreage, 1880.	Total yield, 1880.	Average yield per acre.	Total acreage, 1881.
Wheat, bushels...	2,961,842	39,399,068	13.30	2,963,984
Oats, bushels.....	682,520	22,867,932	33.49	737,497
Corn, bushels.....	422,461	13,125,255	31.07	474,989
Barley, bushels...	118,480	2,751,638	23.21	203,349
Rye, bushels.....	12,312	170,817	13.89	14,231
Buckwheat, bush..	2,955	29,736	10.06	4,007
Potatoes, bushels..	33,254	3,782,243	98.87	43,817
Beans, bushels....	1,538	20,904	13.66	2,235
Flaxseed, bushels..	40,004	397,190	9.92	90,494
Timothy-seed.....	60,940	.....	.....	.....
Clover-seed.....	8,371	.....	.....	.....
Sugar-cane sirup, gallons.....	6,914	662,837	95.86	7,515

THE AGRICULTURAL PRODUCTS OF 1881.

Cultivated hay, tons.....	175,595
Wild hay, tons.....	1,263,472
Butter, pounds.....	15,693,283
Cheese, pounds.....	417,994
Honey, pounds.....	221,255
Maple-sugar, pounds.....	49,577
Maple-sirup, gallons.....	18,418
Apples, bushels.....	147,803
Grapes, pounds.....	141,731
Tobacco, pounds.....	43,437
Wool, pounds.....	923,170

The greatest wheat-producing counties in 1880 were as follows, only those producing more than 1,000,000 bushels being given :

COUNTIES.	Acres.	Bushels.	Average yield.
Blue Earth.....	98,623	1,258,076	13-43
Dakota.....	115,197	1,439,469	12-49
Fillmore.....	188,844	1,079,851	7-75
Freeborn.....	111,461	1,444,527	12-96
Goodhue.....	191,373	2,740,962	14-32
Olmsted.....	134,923	1,167,531	9-65
Otter Tail.....	67,877	1,200,117	17-68
Polk.....	63,135	1,035,428	16-40
Rice.....	74,084	1,130,256	15-25
Stearns.....	75,453	1,111,630	14-73
Wabasha.....	101,497	1,159,935	11-42
Waseca.....	70,793	1,023,070	14-45
Winona.....	100,632	1,096,017	10-89

The following counties show a slight decrease in wheat-acreage for 1881: Blue Earth, Brown, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Houston, Jackson, Martin, Mower, Murray, Nobles, Olmsted, Redwood, Rock, Steele, Wabasha, Waseca, Washington, Watonwan, and Winona.

The acreage devoted to flaxseed in 1881 is more than double that of the previous year, and the yield per acre—nearly ten bushels of seed—is greater than it has been for many years previous. The prominent flaxseed-raising counties are as follows:

COUNTIES.	Acres.	Bushels.
Cottonwood.....	7,503	62,908
Jackson.....	3,575	34,352
Murray.....	2,613	23,192
Nobles.....	3,357	30,543
Rock.....	3,924	44,497
Watonwan.....	3,980	50,500

Following are the statistics of forest-trees, planted and growing:

YEARS.	No. of acres planted in the season.	No. of acres growing.	Rods planted and growing on highways and farms.
1878.....	4,363	13,029	239,265
1879.....	3,220	21,249	280,945
1880.....	4,052	25,331	329,309
1881.....	3,656	29,159	258,447

COWS AND DAIRY PRODUCTS IN 1880.

Number of milch-cows.....	228,955
Pounds of butter produced.....	15,693,283
Pounds of cheese produced.....	417,994
Number of milch-cows, 1881.....	222,062
Number of cheese-factories, 1881.....	31

SHEEP AND WOOL IN 1881.

Number of sheep.....	215,453
Wool produced, pounds.....	923,170

The wheat-crop of 1881 was about 34,000,000 bushels.

The following statistics of Sunday-schools were reported to the State Sabbath-School Convention:

YEARS.	Total number of counties.	Total schools in the State.	Scholars.	Money expended in Sunday-schools.
Report of 1880...	74	1,187	64,931	\$22,760
Report of 1879...	64	794	41,367	12,416
Increase.....	10	393	23,564	\$10,344

The census of 1880 furnishes the following figures:

Whites, native to the State.....	299,830
Colored, native to the State.....	2,541
Whites, natives of other States and Territories.....	212,084
Colored, natives of other States and Territories.....	1,183
Total native population.....	513,997
Total foreign population.....	267,676
Total population.....	780,773

Of the foreign-born population, the Scandinavian countries contribute the greatest number, showing a total of 107,770: Norway, 62,521; Sweden, 39,176; Denmark, 6,071. The next largest portion is from German Europe, whence come 78,460 souls. From the Canadian provinces there are 29,789; Ireland sends 25,942; Great Britain, 12,609; Bohemia, Hungary, and Poland, 10,333; France, Spain, and Portugal, 1,388; China, 32; Japan, 1; South Africa and Australia, 63; Asia and East India Islands, 82; South and Central America, 45; and from the islands of the Atlantic Ocean, 46.

The Republican State Convention, consisting of 308 delegates, met in St. Paul on the 28th of September. The following ticket was nominated: For Governor, Lucius F. Hubbard; Lieutenant-Governor, Charles A. Gilman; State Auditor, W. W. Braden; Secretary of State, Frederick von Baumbach; Treasurer of State, Charles Kittelson; Attorney-General, W. J. Hahn; Clerk of Supreme Court, Samuel H. Nichols; Railroad Commissioner, James H. Baker; Supreme Judges, William Mitchell, D. A. Dickinson, and Charles E. Vanderburg.

The platform adopted is as follows:

The Republicans of Minnesota, in convention assembled, declare the following as the principles on which the Republican party has hitherto conducted the government wisely and economically, and which will continue to distinguish its policy:

1. The true interests of the people demand the maintenance of the broad constitutional distinction between the duties of the Executive to nominate to official position, uncontrolled by senatorial dictation, and the exercise by the Senate of the right to confirm or reject all appointments uninfluenced by Executive interference; the continuance of the policy of a metallic currency, based on the standard of the gold dollar; the fostering and encouragement of the commerce and manufactures of the country by such incidental protection as a necessary and discriminating tariff will afford; the just protection of the agricultural interests by such national legislation as will reduce to the minimum the cost of transportation of the products of the farm to the markets of the world; the continuance of the high standard of national credit which we as a nation enjoy, by the preservation untarnished of the public faith, and the prompt payment of all honest obligations; the enactment and rigid enforcement of laws prohibiting the imposition of assessments upon clerks and employes of the Government for the purpose of defraying election expenses, and the establishment of a permanent system of examination which shall secure the highest efficiency in the public service.

2. That the continuance of a free government under republican forms is dependent upon the preservation of the fullest and most perfect right to the untrammelled and independent exercise by every elector of the right to express his opinions upon men and measures, by means of a free and secret ballot, and to that end we denounce, as a blow aimed at the permanency of free institutions, every attempt, whether by force, intimidation, or fraud, to control, coerce, or defeat the independent action of the electors at any election, whether State or national.

3. That, recognizing the high importance of pre-

serving the purity, independence, and integrity of the judiciary, we deem it a sentiment in which all men must agree, that it should at all times be the aim and desire of every good citizen to elevate it as far as possible above the domain of party politics, and that eminent learning, purity of public and private character, and fearlessness in the discharge of duty, should be the only passports to a seat upon the judicial bench.

4. That the Republicans of Minnesota behold with natural pride the eminently wise and successful administration of the national Treasury by a citizen of our own State, and most heartily commend and indorse the brilliant financial policy which has distinguished that department since the accession of the present Secretary, as well as the uniform financial policy of the national Republican party, which, having had a continuous control of the national finances during a war unprecedented for the magnitude of the forces brought into the field, and the enormous expenditure incident thereto, and from its termination to the present hour, and by the rapid reduction of taxation and diminution of the national debt, has so demonstrated its marked ability to administer the government in both peace and war, that it has continued to command and deserve the suffrages of the people of this country to a degree for which there are few, if any, precedents in the history of political parties.

5. The watchfulness with which the interests of our frontier settlers have been cared for and protected; the inflexible firmness with which improvident legislation has been checked; the sound business ability which has been a conspicuous characteristic of the administration of his Excellency John S. Pillsbury command it to the hearty approval of his contemporaries, and will stand forth in the history of the State as one of the most illustrious in our annals.

6. That it is deemed eminently fitting that the first Republican Convention which has assembled since his death should express the deep sense of the public loss which is everywhere felt at the lamented demise of the late Associate Justice F. R. E. Cornell, of station so exalted, of intellect so luminous, and of public and private character so pure that it would be difficult to find his peer.

7. That, for the second time, the ruler of a free nation has been stricken down by assassination. In both cases men conspicuous for their public virtue have fallen, the first a victim of the fierce animosities of the hour; the last, let us hope, by the purposeless act of a madman. In his early death, however, President Garfield has left the nation the rich inheritance of the auspicious dawn of an administration which gave an abundant promise of the most glorious results, the firm maintenance of the constitutional prerogative of the Executive, the overthrow of a gigantic conspiracy against the public revenue. Enthroned in the innermost official circles, the inauguration of a most wise and statesmanlike financial policy, the era of good feeling, which, for the first time since the civil war, was beginning to steal across the whole land, and gave promise of the speedy burial of past sectional animosities in oblivion.

Resolved, That in Chester A. Arthur, upon whom has fallen the mantle of this illustrious man, we hope to find a successor who will in no wise disappoint the just expectations of the Republican party or of the country. Chosen by the National Convention as the associate of General Garfield on the presidential ticket, and expected by the people to be his successor in any emergency which might render such succession necessary, the Republicans of Minnesota, with due appreciation of the peculiar embarrassments surrounding his assumption of the office, and in full expectation of his faithfulness to the principles of the party, and his devotion to the best interests of the country, pledge to him their cordial, considerate, and united support.

The Democratic State Convention was held

in St. Paul on the 6th of October. The following nominations were made: For Governor, R. W. Johnson; Lieutenant-Governor, E. P. Barnum; Auditor of State, Rudolph Lehmicke; Secretary of State, A. J. Lamberton; Treasurer of State, John F. Russell; Attorney-General, G. M. Baxter; Clerk of Supreme Court, J. J. Thornton; Railroad Commissioner, B. S. Cook.

On the subject of judicial nominations the following resolutions were adopted:

Resolved, That in the selection of judges of the highest judicial tribunal of a State, the question of personal fitness for the office rather than mere political affiliation is of paramount importance.

Resolved, That in Messrs. Mitchell, Clark, and Dickinson, present members of our Supreme Court, we recognize gentlemen eminently qualified for that important position, and we cheerfully recommend their indorsement by all who desire an able and untarnished judiciary.

Resolved, That the refusal of Judge Clark to permit his name to be mentioned for the nomination before this convention redounds to his credit, but, recognizing his superior qualifications for the office, we hereby recommend to the electors of the State the propriety of placing upon their ballots, with those of Judges Mitchell and Dickinson, the name of Greenleaf Clark.

The following is the platform adopted:

Whereas, The Democratic State Convention in 1859 embodied in its platform of principles the following, to wit:

1. That it is the duty of the people of Minnesota to preserve inviolate the faith and credit of the State.

2. That the doctrine of repudiation announced by the Republican party is one which is abhorrent to the Democracy, and must receive the condemnation of the honest masses.

3. That we pledge the Democratic party of Minnesota to honorably and promptly meet all obligations resting upon her; and

Whereas, The Republican State Convention, which lately held its session in this city, utterly ignored, in its deliberations and platform, all allusion to the proposed settlement of the State railroad bonds, a question involving vitally the honor and reputation of the State; therefore,

Resolved, That the principles of the Democratic party, as above reproduced from the platform adopted by the State Convention in 1859, are hereby affirmed, and we express the hope that the Legislature of this State, soon to assemble in special session, will, by prompt and practical legislation, solve this great problem.

Resolved, That we express our sincere grief for the untimely death of President Garfield, and our utter horror at the wicked assassination by which he was removed from life; and we hereby tender our heartfelt sympathy to his bereaved family.

Resolved, That we re-affirm the political principles announced by the Democratic National Convention which nominated Winfield S. Hancock.

The election took place in November, and the Republican ticket was elected. The vote for Governor was as follows: For Hubbard, 65,025; Johnson, 37,168; others, 3,384. For Lieutenant-Governor, Gilman received 66,677 votes, and Barnum 35,990. For the act applying the internal improvement land fund to the payment of State bonds, 31,011 votes were cast, and against it 13,589.

Four constitutional amendments were voted on at this election. One prohibits special legislation on a variety of subjects classified in the

act, and requires the Legislature to enact general laws under which all these matters may be disposed of by the courts, or county or other municipal authorities.

Another amendment is chiefly of interest to cities. It provides that cities may levy an annual tax on all lands fronting on water-mains or pipes laid down by the city for supplying the citizens with water. Still another strikes out the constitutional limitation of the session of the Legislature to sixty days, but fixes the pay of each member at \$5 per day, his total pay not to exceed \$450 for any regular session. The maximum pay for any special session is \$200.

Perhaps the most important of the proposed amendments is that which relates to the sale of the swamp-lands. It provides that all the swamp-lands now held by the State shall be appraised and sold in the same manner as the school-lands; that the minimum price shall be the same, less one third, as provided by law for the sale and appraisement of the school-lands; that the principal of the proceeds shall be inviolate; one half to be appropriated to the common-school fund and the other half to the educational and charitable institutions of the State, in the ratio of the cost of their support. The last State Auditor's report shows that up to that time there had been granted to various railroad companies and State institu-

tions 2,641,434 acres of these swamp-lands. It is the opinion of the State Auditor that not more than 2,500,000 acres of swamp-lands remain unappropriated. Most of the unappropriated remainder will be in the region north of Lake Superior.

The amendment to section 1 of Article IX was adopted by a vote of 35,019 against 18,320. The amendment to sections 1 and 7 of Article IV (relating to pay of legislators, etc.) was rejected, 28,799 votes being cast for and 32,183 against it. The amendment to Article IV, to prohibit special legislation, was adopted by a vote of 56,491 against 8,369. The amendment of section 2 of Article VIII was adopted by a vote of 51,903 against 8,440.

On the 1st of March, during the session of the Legislature, the Capitol was discovered to be on fire. The members escaped, and the most valuable archives were saved, but the building was destroyed. A new Capitol has been commenced. On the 15th of July the town of New Ulm was visited by a very destructive cyclone, which leveled many buildings, and killed and injured a considerable number of persons. The property destroyed amounted to not less than \$300,000. Much damage was also done in the surrounding country.

The following table gives the population of the State by counties, in 1880, as compared with 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Aitkin.....	366	178	Houston.....	16,332	14,936	Polk**.....	11,433	.....
Anoka.....	7,108	3,940	Isanti.....	5,063	2,035	Popo.....	5,374	2,691
Becker.....	5,218	308	Itasca.....	124	96	Ramsey.....	45,890	23,085
Beltrami.....	10	80	Jackson.....	4,806	1,825	Redwood.....	5,375	1,829
Benton.....	3,012	1,558	Kanabec.....	505	93	Renville.....	10,791	3,219
Big Stone.....	3,688	24	Kandiyohi.....	10,159	1,760	Rice.....	22,481	16,083
Blue Earth.....	22,889	17,302	Kittson.....	905	64	Rock.....	3,669	188
Brown.....	12,018	6,396	Lac-qui-parle†..	4,891	.....	Salut Louis.....	4,504	4,561
Carlton.....	1,230	286	Lake.....	106	135	Scott.....	13,516	11,042
Carver.....	14,140	11,586	Le Sueur.....	16,103	11,607	Sherburne.....	8,855	2,050
Cass.....	486	380	Lincoln‡.....	2,945	.....	Sibley.....	10,637	6,725
Chippewa.....	5,403	1,467	Lyon§.....	6,257	.....	Stearns.....	21,956	14,206
Chisago.....	7,982	4,358	McLeod.....	12,342	5,643	Steele.....	12,460	8,271
Clay.....	5,887	92	Marshall||.....	992	.....	Stevens.....	3,911	174
Cook*.....	65	.....	Martin.....	5,249	3,867	Swift††.....	7,473	.....
Cottonwood.....	5,533	634	Meeker.....	11,739	6,090	Todd.....	6,123	2,036
Crow Wing.....	2,319	200	Miller.....	1,501	1,109	Traverse.....	1,507	13
Dakota.....	17,391	16,312	Morrison.....	5,875	1,681	Wabasha.....	18,206	15,559
Dodge.....	11,344	8,598	Mower.....	16,799	10,447	Wadena.....	2,080	6
Douglas.....	9,130	4,239	Murray.....	3,604	209	Waseca.....	12,385	7,854
Faribault.....	13,016	9,940	Nicollet.....	12,333	8,362	Washington.....	19,563	11,809
Fillmore.....	23,162	24,887	Nobles.....	4,435	117	Watsonwan.....	5,104	2,426
Freeborn.....	16,069	10,578	Olmsted.....	21,543	19,793	Wilkin.....	1,906	295
Goodhue.....	29,651	22,618	Otter-Tail.....	18,675	1,968	Winona.....	27,197	22,319
Grant.....	3,004	840	Pine.....	1,365	643	Wright.....	18,104	9,457
Hennepin.....	67,013	31,566	Pipe-Stone¶.....	2,092	.....	Yel. Medicine††..	5,884	.....
The State.....							780,778	439,706

MISSISSIPPI. The yield of the crops for the past two years has not been satisfactory,

* Formed in 1875, from part of Lake; unorganized.

† Formed in 1871, from part of Redwood.

‡ Formed in 1873, from part of Lyon.

§ Formed in 1871, from part of Redwood; in 1873, part of Lincoln.

|| Formed in 1879, from part of Kittson.

¶ Organized in 1879.

** In 1870 returned as having no population; organized in 1873.

†† In 1870 detached from Chippewa and part of Lac-qui-parle attached; organized in 1871.

‡‡ Formed in 1872, from part of Redwood.

but the prices obtained for the chief staple have, in most instances, brought to the farmer a fair return. Complaint is made of the inadequate and unequal assessment of property throughout the State. It is believed that if the property of the State were assessed as required by the Constitution and laws, taxation might be reduced to less than half the present rate.

The Auditor's reports show the valuation of property in the State for the last two years to have been as follows:

For 1880, realty.....	\$79,712,851	State tax..	\$845,891 95
" 1880, personalty....	35,417,800		
" 1881, realty.....	79,712,851	State tax..	348,869 42
" 1881, personalty....	86,576,959		

The following synopsis from the books of the Treasurer will give the general condition of the finances of the State at the close of the fiscal year, December 31, 1881:

RECEIPTS FOR 1880.

On warrants.....	\$976,878 63
On bonds issued.....	115,000 00
Total receipts.....	\$1,091,878 63

DISBURSEMENTS.

Warrants paid and canceled.....	\$893,398 38
Bonds paid and canceled.....	152,150 00
Coupons paid and canceled.....	51,646 00
Total disbursements.....	\$1,097,199 38
Warrants outstanding December 31, 1880.....	296,620 95

RECEIPTS FOR 1881.

On warrants.....	\$522,925 04
On 4 per cent bonds issued.....	75,000 00
Total receipts.....	\$597,925 14

DISBURSEMENTS.

Warrants paid and canceled.....	\$697,915 14
Bonds paid and canceled.....	150,250 00
Total disbursements.....	\$848,165 14
Warrants outstanding December 31, 1881.....	218,540 39

INDEBTEDNESS OF THE STATE.

Due Chickasaw school fund.....	\$815,229 11
Due interest on same.....	11,780 16
Due common-school fund.....	817,646 46
Warrants outstanding.....	218,540 39
Certificates of indebtedness outstanding.....	2,665 00
Swamp-land fund.....	50,453 03
Bonds due January 1, 1882.....	125,000 00
Bonds due January 1, 1883.....	100,000 00
Bonds (5 per cent interest) due January 1, 1896	227,150 00
Bonds (4 per cent interest) due January 1, 1890	190,000 00
Interest on bonds.....	51,864 82
Railroad-tax, distributive.....	17,118 32
Common-school fund, distributive.....	50,851 03
Interest on insurance deposits, \$6,715.61, and past-due bonds, \$350.....	7,268 61
Total indebtedness.....	\$2,685,866 93

To arrive at the actual amount of debt the State now owes and is required to pay, the following amounts must be deducted from the above:

Chickasaw school fund, upon which the State is to pay the interest only.....	\$815,229 11
Common-school fund.....	817,646 46
Warrants in the Treasury owned by the State, and included in outstanding warrants.....	185,269 97
Cash balance in Treasury December 31, 1881..	545,106 23
Total.....	\$2,363,251 82

The actual indebtedness of the State, above the amount of cash in the Treasury, is, therefore, \$322,615.11, which shows a decrease of the debt during the last two years of about \$57,000.

During the last two years the Commissioner of Swamp-Lands has issued patents for about 225,000 acres of land, for which about \$43,000 have been paid into the Treasury. Of the swamp-lands patented to the State prior to 1878, very little now remains unsold.

Under an act of the Legislature approved February 21, 1880, the Governor directed John M. Smylie to proceed to Washington and present to the Department of the Interior the claim of the State for lands and indemnity, of

which it was believed there were about 387,000 acres to which the State was entitled. Patents had been received at the close of the year for about 177,000 acres, and the remainder will be patented as rapidly as the circumstances will permit. The claim of the State to indemnity amounting to about \$50,000 is admitted by the department at Washington, but the regulations of the department render the claim nugatory unless Congress shall, by enactment, enforce compliance with the law of 1857 on this subject.

In addition to the indemnity due for lands already selected, the State is entitled to lands, indemnity, and scrip, under the act of Congress of September 28, 1850, on account of lands which have not been selected, but to which the State is clearly entitled under the provisions of said act.

There are remaining for sale by the Secretary of State, at six dollars per acre, about 34,000 acres of the Chickasaw school-lands. This is a remnant of about 800,000 acres, and is of little value. The Governor recommends that the price be reduced, and that it be transferred from the office of the Secretary of State to the Commissioner of Swamp-Lands.

For many years the State has given little attention to the school-lands, known as the sixteenth section. Many of these lands are valuable, and, in many instances in which the Government had disposed of the sixteenth section, the State has failed to make selections in lieu thereof, as authorized by the act of Congress. The Governor recommends that these lands also be transferred to the Commissioner of Swamp-Lands.

The United States owes the State five per cent on all sales of Government land situated therein. The Comptroller of the Treasury has failed to make settlement since 1879. From the large sales of lands during the last two years, the amount now due the State must be considerable.

The following educational statistics are from the report of the State Superintendent of Public Instruction, for the year ending December 31, 1880:

NUMBER OF EDUCABLE CHILDREN IN THE STATE.

White.....	175,251
Colored.....	251,438

NUMBER IN PUBLIC SCHOOLS DURING THE YEAR.

White.....	112,994
Colored.....	123,710

AVERAGE DAILY ATTENDANCE.

White.....	72,881
Colored.....	83,880

NUMBER OF TEACHERS EMPLOYED.

White.....	8,255
Colored.....	2,314

AVERAGE NUMBER OF DAYS TAUGHT.

In country.....	74½
In cities.....	177
Average monthly salary paid teachers.....	\$30 05
Amount distributed by State.....	\$241,793 75
Amount derived from county tax.....	334,769 86
Total receipts.....	739,026 34
Total disbursements.....	830,704 79
Expenditure per capita of children.....	1 56
Expenditure per capita of children enrolled.....	2 70
Expenditure per capita of children in attendance.....	4 01

A comparison of the foregoing figures with those of the year 1879 shows a steady and healthful growth of the public-school system of the State. The number of white children in the public schools for the year in excess of that of the preceding year was 7,037; colored, 12,914. The average daily attendance shows a like increase, being 6,500 white children and 11,288 colored. The number of teachers employed was 202 over that of the preceding year, the increase being confined to the colored teachers. The number of days taught was reduced three in the country and increased in cities and towns constituting separate school districts from 130 to 177. The average salary paid teachers remains about the same. The expenditure per capita of educable children for 1879 was \$1.62; for number in average attendance, \$3.80. The excess in disbursements over receipts is explained by the fact that in many counties unexpended balances were carried over from the preceding year.

The University of Mississippi has diminished in the number of students.

During the session of 1879-'80 there were in the literary department.....	394
In the law department.....	20
During the session of 1880-'81 there were in the literary department.....	329
In the law department.....	18

During the session which commenced in October there were in attendance in the literary department only 193 students; in the law department, 10. The instructors employed are, one professor of law, ten in the department of arts, and three in the high-school. The income of the university is little above the amount needed for current expenses. It is greatly in need of a library building and books to put in it; the law department has no building; and a good refracting telescope ought to be provided for the observatory. One good building can be made to accommodate both the library and law department. The greatest need of the university, however, is good schools of a high grade in different parts of the State to prepare boys for the university, and to excite in them a desire for education. To have these schools there must be a supply of competent teachers, and to meet this demand there must be established a normal school for the special training of teachers. A normal department can be established and maintained at the university at a comparatively small expense.

The Agricultural and Mechanical College first opened its doors for the admission of students on the 6th of October, 1880. During the first month 200 students matriculated, and the number soon increased to 300. The dormitory was not completed until some time in the spring of 1881. There were during the first year 354 matriculations, and the average attendance was over 200. There were in attendance at the close of the year 267 students, about as many as could be comfortably provided for. The faculty consists of a president, six professors, four tutors, and one United States offi-

cer furnished by the Government for military instruction. At least one additional professor is now required.

Alcorn Agricultural and Mechanical College is as prosperous as the impoverished condition of the colored people of the State will warrant. There were in attendance during the last college year 160 students. An appropriation of \$12,000, to properly equip the agricultural department of this college, is required. The State Normal School is doing much good in educating the colored youth of both sexes.

The educational institutions of the State are almost exclusively for the instruction of young men. No facilities have been provided by the State for the instruction of females in the higher branches of learning.

The number of patients under treatment in the Lunatic Asylum, during the year 1880, was 535. Of this number 44 died, 43 recovered, and 3 improved. There remained in the Asylum at the end of the year 442. In 1881 there were under treatment 547 patients, of whom 60 died, 53 recovered, and 5 improved. There were remaining in the institution on the 25th of December, 1881, 416 patients. The large increase of mortality during the year 1881 was mainly among patients who had long been suffering with chronic affections, such as heart-disease, consumption, and other kindred diseases.

The number of pupils now in the Institution for the Deaf and Dumb is larger than ever before. The average attendance for the years 1880 and 1881 was 42. There are now in the institution 68, 14 of whom are colored.

On the 1st day of December, 1881, there were in charge of the lessees of the Penitentiary 876 convicts, of which 782 were colored, 92 white, and 2 Indians. During the last two years commencing December 1, 1879, and ending December 1, 1881, 125 have died, 136 have escaped, and 25 recaptured. The number of convicts received in 1880 was 280; in 1881, 351. The number discharged in 1880 was 228; in 1881, 188. The number pardoned in 1880 was 34; in 1881, 41.

The amount of hire for convicts, from June 15, 1876, to January, 1881, is \$40,231.19; amount of improvements contracted for during the time, \$31,774.04; all of which were completed with the exception of \$3,896.65. Since that time work on said contract has been done to the amount of \$2,070, leaving yet to be completed improvements amounting to \$1,826.65. Permanent improvements amounting to \$4,749.17 were also made by the former lessees prior to the expiration of the lease, January 1, 1881.

Under act of March 6, 1880, the Board of Public Works leased the Penitentiary and all property pertaining thereto, for six years from January 1, 1881, for \$39,420 per annum.

The following figures are taken from the report of the State Commissioner of Immigration and Agriculture.

The area of Mississippi is 47,156 square miles, or 30,179,840 acres, divided into farms as follows:

YEAR.	Number of farms.	Number of acres.	In cultivation.
1860.....	42,840	15,840,000	5,065,000
1870.....	68,023	18,129,000	4,209,000
1880.....	75,205	18,818,000	4,895,000

It will be seen from the above table that, in 1860, 5,065,000 acres of land were under cultivation, and, in 1880, 4,895,000 acres, or nearly as much as in 1860, which shows that the farmers of the State are gradually recovering from the disasters of the war.

AGRICULTURAL PRODUCTS OF MISSISSIPPI.

UNITED STATES CENSUS	1870.	1880.
Value of live-stock of all kinds...	\$29,910,000	\$35,792,000
Corn, bushels.....	15,658,000	21,375,000
Oats, bushels.....	414,000	1,959,620
Cotton, bales.....	564,000	955,808

Mississippi still keeps the first place in cotton production, having made in 1879-'80 955,808 bales, while the second place is given to Texas with her 808,000 bales, or a difference in favor of Mississippi of 147,800 bales. Of this immense cotton crop the white people made 323,-

600 bales, or a little more than one third of the total crop.

MANUFACTURES IN MISSISSIPPI.

	1870.	1880.
Manufactories.....	1,731	2,331
Hands employed.....	5,941	7,845
Capital invested.....	\$4,501,714	\$6,725,520
Wages paid.....	4,547,428	6,274,630
Value of productions.....	8,154,758	12,352,375

The principal articles manufactured are lumber, cotton and woolen goods, cotton yarns, cotton-seed oil, agricultural implements, wagons, bricks, and machinery. The facilities for water and steam power in the various parts of the State are great, and are advantageously distributed.

The census taken in 1880 by the State authorities, as a basis for the legislative apportionment, makes the total population of the State 1,143,713, of whom 481,728 are whites, and 655,554 blacks; and 110,113 are white voters, and 130,607 black voters. The number of children of school age is 185,026 white, and 259,105 black; and the number of public schools is 5,024.

The population of the State by counties, as returned by the census of 1880, and as compared with 1870, is as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adams.....	22,649	19,084	Itawamba.....	10,663	7,812	Pike.....	16,688	11,303
Alcorn.....	14,272	10,431	Jackson.....	7,607	4,362	Pontotoc.....	13,858	12,525
Amite.....	14,004	10,973	Jasper.....	12,126	10,884	Prentiss.....	12,153	9,343
Attala.....	19,983	14,476	Jefferson.....	17,914	13,548	Quitman. §.....	1,407	.....
Benton *.....	11,023	.....	Jones.....	8,828	3,313	Rankin.....	16,752	12,977
Bolivar.....	13,652	9,732	Kemper.....	15,719	12,920	Scott.....	16,845	7,847
Calhoun.....	13,492	10,561	Lafayette.....	21,671	13,802	Sharkey ¶.....	6,306	.....
Carroll.....	17,795	21,047	Lauderdale.....	21,501	13,462	Simpson.....	8,008	5,718
Chickasaw.....	17,905	19,599	Lawrence.....	9,420	6,720	Smith.....	8,088	7,126
Choctaw.....	9,036	16,988	Leake.....	13,146	8,496	Sumner **.....	9,534	.....
Claiborne.....	16,768	13,836	Lee.....	20,470	15,955	Sunflower.....	4,661	5,015
Clarke.....	15,021	7,505	Leflore †.....	10,246	.....	Tallahatchie.....	10,926	7,352
Clay †.....	17,367	.....	Lincoln.....	13,547	10,184	Tate ††.....	18,721	.....
Coahoma.....	13,563	7,144	Lowndes.....	28,244	30,502	Tippah.....	12,867	20,727
Copiah.....	27,552	20,608	Madison.....	25,866	20,948	Tishomingo.....	8,774	7,350
Covington.....	5,993	4,753	Marion.....	6,901	4,211	Tunica.....	8,461	5,353
De Soto.....	22,924	32,021	Marshall.....	29,330	29,416	Union ††.....	13,030	.....
Franklin.....	9,729	7,498	Monroe.....	28,553	22,631	Warren.....	31,233	26,769
Greene.....	3,194	2,033	Montgomery §.....	13,343	.....	Washington.....	25,367	14,569
Grenada.....	12,071	10,371	Neshoba.....	8,741	7,499	Wayne.....	8,741	4,206
Hancock.....	6,439	4,239	Newton.....	13,436	10,067	Wilkinson.....	17,815	12,705
Harrison.....	7,895	5,795	Noxubee.....	29,874	20,905	Winston.....	10,087	8,984
Hinds.....	43,953	30,488	Oktibbeha.....	15,978	14,891	Yalobusha.....	15,649	13,254
Holmes.....	27,164	19,370	Panola.....	28,352	20,754	Yazoo.....	23,845	17,279
Issaquena.....	10,004	6,337	Perry.....	3,427	2,694			
The State.....							1,131,597	827,922

A State Prohibition Convention was held in Jackson, on the 20th of July, forty-two coun-

* Organized, in 1870, from parts of Marshall and Tippah.
† Organized as Colfax in 1872 (name changed in 1876) from parts of Chickasaw, Lowndes, Monroe, and Oktibbeha.
‡ In 1871, from parts of Carroll and Sunflower.
§ Formed and organized, in 1871, from parts of Carroll and Choctaw; in 1874, part to Sumner.
|| In 1877, from parts of Coahoma, Panola, Tallahatchie, and Tunica.
¶ In 1876, from parts of Issaquena, Warren, and Washington.
** Organized, in 1874, from parts of Chickasaw, Choctaw, Montgomery, and Oktibbeha.
†† Organized, in 1873, from parts of De Soto, Marshall, and Tunica.
‡‡ Formed and organized, in 1870, from parts of Tippah and Pontotoc, and, in 1874, part from Lee.

ties being represented by 282 delegates. No candidates were nominated, but an address was adopted, and the following resolutions:

Resolved, That the president of this convention appoint an Executive Committee of fifteen, two from each congressional district and three from the State at large, five of whom shall constitute a quorum, and whose duty it shall be—

1. To prepare and submit to the Legislature at its next session a memorial setting forth the evils of the liquor-traffic in this State, and, in the name of this convention, praying and demanding that an amendment to the Constitution prohibiting said traffic in this State shall be passed and submitted to the people for ratification or rejection at the next succeeding general election.

2. To facilitate and further the organization of prohibition clubs in every county and town throughout the State, and disseminate accurate and reliable information among the people as to the evils of the liquor-traffic.

3. To render such service as may be deemed proper in the preparation of the constitutional amendment above referred to, and such as any committee of the Legislature charged with the special duty may request.

4. To call any conventions, State and county, which may hereafter become necessary, either for the purpose of promoting the ratification of such an amendment to the Constitution as the Legislature may adopt, or for the more efficient organization of the friends of prohibition throughout the State, should the Legislature fail or refuse to pass the amendment desired, in order to secure all needful legislation, and protect the health, lives, and property of the people against the evils of the whisky-traffic.

Resolved, That any vacancy in said committee may be filled by the president of this convention, or by any three members of the committee; and that the committee constituted under these resolutions shall hold office until superseded by some future Prohibition Convention.

Resolved, That the people of the several counties and towns in this State be and they are hereby urged at once to organize prohibition clubs, and appoint county executive committees, and prepare, by suitable subscriptions and contributions of money, for the circulation of petitions for prohibition, after such form as the executive committee may adopt, and the presentation thereof for signature to every man and woman in the State, to the end that there may be a full and fair expression of public sentiment on this measure for the information and guidance of the Legislature; and that the several county executive committees when organized shall correspond with and be subject to the direction of the State Executive Committee.

Resolved, That pending the submission of the said contemplated constitutional amendment, the Legislature be requested to provide by law for the determination of the question of licensing liquor-dealers, by a direct vote of the people within the towns, counties, and supervisors' districts in this State, within which liquor is sought to be sold, for annulling the existing license laws; and if the people agree to license dealers, for limiting the quantity for sale to not less than one gallon, while the price of the license is largely increased; and that the Executive Committee be charged with the duty of bringing this matter to the early attention of the Legislature.

The Democratic State Convention met in Jackson, on the 3d of August, every county being represented and 521 delegates being present, and was in session four days. The following ticket was nominated: for Governor, Robert Lowry, of Rankin County; for Lieutenant-Governor, G. D. Shands, of Tate; for Secretary of State, Henry O. Myers, of Marshall; for State Treasurer, W. L. Hemingway, of Carroll; for Auditor of Public Accounts, Sylvester Gwin, of Lawrence; for Attorney-General, T. C. Catchings, of Warren; for State Superintendent of Public Education, James A. Smith, of Jasper. The platform adopted was as follows:

1. *Resolved*, That we re-affirm the following principles, adopted by the Democratic State Convention which assembled in this city on the 2d day of August, 1877:

The Democratic party of Mississippi, grateful for the success of its past efforts in the cause of reform and of just and honest government, and invoking the blessings of Heaven on its future endeavors in the same cause, does adopt and proclaim the following platform of principles:

Fidelity to the Constitution of the United States.

Home rule, and the preservation of the State governments, with all their reserved and guaranteed rights unimpaired.

No interference by the military power with the freedom of elections, and with the civil and political rights of citizens of the United States.

The protection of the equal rights of all classes.

No discrimination on account of race, color, or previous condition of servitude, or birthplace, and no special legislation for the benefit of the few at the expense of the many.

A strict adherence, in the selection of public agents, to the time-honored Jeffersonian standard, "Is he honest, is he capable, is he true to the Constitution?"

A continuation of the policy of retrenchment and reform so signally inaugurated by the Democratic party.

Reduction of the burdens of taxation to the lowest point compatible with an efficient execution of the laws.

Corporations of every description supervisable within constitutional limits by State authority, and subordinate to State legislation, in the interest and for the protection of the people.

As the perpetuity of free government depends upon the virtue and intelligence of the people, we pledge ourselves to the maintenance of our State system of free schools.

We favor the granting of such aid as may be extended without violation of the Constitution of the United States, or departing from the established usages of the Government, to the Texas Pacific Railroad, and for the rebuilding and keeping in repair of the levees of the Mississippi River.

That upon this platform of principles and of public policy we invite the co-operation of all citizens without regard to past differences, in support of the candidates nominated by this convention.

2. *Resolved*, That we declare it to be the policy of the Democratic-Conservative party to encourage the flow of immigration to this State, and recommend the passage of all needful laws and the making of all necessary appropriations to effect this end.

3. *Resolved*, That we invite the investment of capital, and assure to it all necessary legal protection.

The Greenback-Republican State Conventions agreed upon the following fusion ticket: Benjamin King, for Governor; J. B. Yellowley, for Lieutenant-Governor; J. J. Spelman, for Secretary of State; J. M. Bynum, for State Treasurer; A. T. Wimberly, for Auditor of Public Accounts; W. F. Fitzgerald, for Attorney-General; W. D. Howze, for Superintendent of Public Education.

At the election in November the Democratic ticket was elected. The vote for Governor was: Lowry, 76,857; King, 51,856. The Legislature elected at this election is composed as follows:

PARTIES	Senate.	House.
Democrats.....	33	102
Republicans.....	3	15
Independent Democrats.....	1	3
Greenbackers.....	..	2
Total.....	37	122

MISSISSIPPI RIVER IMPROVEMENT.

The first appropriation made by the United States Government for the benefit of its great "Inland Sea" was in 1819, when \$6,500 were voted for its survey. In 1820 an additional sum of \$20,000 was set apart for this purpose. A general system of river improvement was begun

in 1824. In that year the Ohio received \$75,000, and \$50,000 more was bestowed on that tributary in 1827, 1829, and 1830. In 1829 a survey of the mouth of the Mississippi was ordered. The Treasury has bled freely in favor of insignificant streams belonging to some well-represented locality; but the Mississippi, which belongs to no State and no section, sweeping through the length and breadth of the land from its northern to its southern limit, has found no advocate zealous enough to procure a due proportion of governmental aid. It has not received one sixth of the general appropriation. Broken banks and shifting shoals have been suffered to impede its navigation. Napoleon, when he sold its delta, announced to the French nation that he had thus given to England a maritime rival who would yet make her tremble for her supremacy on the seas. A wise statesmanship would have made it a paramount object to keep the great river free from all impediments; even a certain justice would suggest that the Government, which levies a revenue of \$1,200,000 by licenses of pilots, steamboats, and other riparian taxes, should employ a part of these charges on the commerce of the river in its improvement. The estimate of the commission for requisite works was \$4,123,000. Much opposition was made to the bill, but finally \$1,000,000 was secured by the act approved March 3, 1881.

The law under which the commission was organized requires it to complete the surveys now in progress between the head-waters of the river and the head of the passes near its mouth, and to make such additional surveys and investigations, topographical, hydrographical, and hydrometrical, of the river and its tributaries, as it may deem necessary.

The first report of the commission (see "Annual Cyclopædia," 1880) describes the work done to January 8, 1881. Between that period and October 10, 1881—

... The triangulation of the river has been completed from Arkansas City, Arkansas, to Greenville, Mississippi, thirty-eight miles distant, where it joins the Coast Survey triangulation, now complete from that point to the Gulf of Mexico. It has been completed between Thebes, Missouri, and Cairo, a distance of twenty-two miles, and between Grafton, Illinois, and Keokuk, Iowa, a distance of one hundred and sixty-six miles; this latter chain depending on bases measured with a secondary base apparatus at Grafton, Louisiana, and Keokuk. Azimuth determinations were also made at these last points. The triangulation is accordingly now completed from Keokuk, Iowa, to the Gulf of Mexico.

The precise levels have closed a gap of six miles above Greenville, Mississippi. They have been completed from Neeley's Landing, Missouri, to Cairo, a distance of one hundred and fifty miles.

The Coast and Geodetic Survey has made its line of precise levels continuous from Greenville to New Orleans, so that the precise levels are now complete between Keokuk, Iowa, and New Orleans.

A tide-gauge has been established in the Gulf of Mexico at Biloxi, and the Superintendent of the Coast and Geodetic Survey has kindly offered to connect his line of precise levels along the Mississippi River with this tide-gauge, so that within a year or two it is hoped to refer with precision all the levels

along the Mississippi River to the mean level of the Gulf of Mexico as an origin.

The preliminary topography and the soundings have been carried from Walnut Bend, Arkansas, to Sunflower Landing, Mississippi, a distance of seventy miles, and a survey of Vicksburg Harbor has been completed.

The plotting of the topography and hydrography has been continued, twenty-six additional sheets having been plotted to a scale of $\frac{1}{30000}$.

The preparation of a preliminary chart of the river on a scale of $\frac{1}{33333}$, or one inch to a mile, has been begun, and four sheets, reaching from Cairo to Cottonwood Point, are completed.

The observation parties which were placed on the upper Mississippi last fall at Prescott, Winona, Clayton, Hannibal, Grafton, and St. Louis, have been maintained during the year, and were withdrawn about October 25th. Aside from information gained as to changes in the bed of the river, and as to sediment, these observations will give at short intervals during the year the discharge at the respective stations, and also the annual discharge.

A party which, at the date of the last report, was engaged in determining the heights of high-water marks for the flood of 1880, has completed that work from Cairo to Fort Saint Philip, below New Orleans, and has determined the slopes of the river at low water from Cairo to Commerce, Mississippi, a distance of three hundred miles.

In order to obtain more definite information as to the height of the alluvial bottom-lands of the Mississippi and their reservoir capacity, a series of transverse level lines, running from ground above overflow on the east side of the river to the similar ground on the west side, has been undertaken. High water on the bottom-lands interfered seriously with the progress of this and of other work on the lower river during last spring. . . . With the remainder of the present appropriation, it is hoped, during the coming year, to complete the final topography and hydrography from St. Louis Landing to Vicksburg, to complete the lines (nine in all) of levels across the alluvial bottom of the Mississippi River, and to keep gauging parties at Paducah and Columbus, Kentucky; Helena, Arkansas; Lake Providence, Louisiana; and the mouth of the Red River, until next fall.

After the adjournment of the last Congress, the commission met to determine the best mode of expenditure for the \$1,000,000 appropriation. Out of the six reaches of difficult navigation, they selected two, Plum Point and Lake Providence reaches.

Plum Point reach includes thirty-eight miles of shifting shoals between wide banks, with a minimum depth of four and a half feet. It lies between Cairo and Memphis, and extends from Island No. 26 to Randolph, or Second Chickasaw Bluffs. The banks vary from 2,000 to 10,000 feet in width. Lake Providence reach extends from Skipwith's Landing, Louisiana, to the foot of Island No. 95, a distance of twenty-five miles. These are the lowest of the shoals which seriously interfere with commerce. The cotton-boats which ply in the bends between White River and New Orleans could during low water extend their trade two hundred miles were the bars near Lake Providence removed. The plans of the commission were duly sanctioned, but the preparation of the "plant" delayed the work. They had in possession only the moderate outfit necessary for surveying, and the equipment had to be made, not enlarged. Owing to the overcrowded condition

of machine-shops and ship-yards, this could only be slowly obtained. The revetments for bank protection and the permeable dikes have therefore not been completed. Nor can their adequacy be estimated until one high-water stage has tested their resisting power, and one low-water stage has shown their actual effect upon the shoals. The detail is experimental, but of the practicability of the general plan for deepening the channel of the river below Cairo to the full extent of the demands of commerce, the commission do not entertain a doubt. They thus briefly sum up their views:

The improvement is to be secured by narrowing the low-river channel-way to an approximately uniform width of three thousand feet in localities where the widths are excessive and the navigation bad, to be accomplished and rendered permanent through the agency of such works as will also create comparative uniformity in the width of the high-water channel. For the attainment of this result, two distinct classes of works, differing widely in character and purpose, will be required, viz., revetments for the protection of eaving banks, and dikes or other structures for the contraction of the channel-way. The bank revetments are intended not only to stop the constant and, in some localities, very rapid enlargement produced by erosion and caving of coneave bends, but in addition thereto to check the growth of bars and shoals below by accretions supplied directly therefrom. The process of laying this revetment will vary greatly in different localities, but will commonly, or at least in many cases, consist in first freeing the banks of snags, stumps, and brush, and then placing a mattress, composed of wire netting overlaid or interlaced with brush, upon that portion of the slope extending from deep water to a few feet above the water-level, and weighting it with sufficient rip-rap stone to hold it in place. The revetment is afterward completed by grading the bank above the water-level to a proper slope with streams of water under high pressure, after the manner commonly followed in hydraulic mining, and laying thereon a supplementary mattress, overlapping the one previously laid, and extending up to the crest of the bank.

More expensive additions of stone and gravel can be safely omitted for some years until the brush decays. A growth of grass and willows can be encouraged, forming the natural and best protection of such banks. Works of this general character have already been employed at points on the Missouri and Mississippi, and they have proved their permanence and utility. The other class of works for narrowing the river have also been executed on these two great rivers. Failures and disappointments are to be expected in dealing with their powerful floods and using novel expedients. These light, permeable dikes, composed of piles, poles, brush, and wire, placed either longitudinally or transversely to the channel, do arrest the velocity of the water, cause a deposit of silt, and thus build up new banks, correcting the channel and causing it to deepen itself. Solid structures do not stand in the bed of the Mississippi unless built down to so great a depth that their cost alone would preclude their use. However experimental these slighter methods may appear, impediments to the free flow of the river, sufficient to check its velocity, do cause a deposit which builds up a new bank and regulates the

channel. The absence of precedents, the new modes of construction, the possible existence of gravel-beds requiring to be dredged out, and the fact that new bars may form where navigation is now easy, render it difficult to form a close estimate of the expense. The initial works on the 184 miles of bad navigation between Cairo and Vicksburg were computed to require \$4,113,000. The additional works to complete and render permanent these improvements can not cost more than that sum, amounting in all to \$8,226,000, or \$45,000 per mile for 184 miles. "These estimates cover about one fourth of the length of the river where navigation needs improvement, viz., from Cairo to Red River; and, assuming that the remaining three fourths will cost proportionately, the aggregate cost of the entire improvement would reach \$33,000,000. These are outside figures, based on detailed estimates of the worst portion of the river." However much they may differ on minor points concerning methods of river regulation, the commission record their unanimous opinion that they can thus maintain a continuous low-river channel showing a minimum depth of ten feet on all bars and shoals between Cairo and the head of the passes, while there is a strong probability of deepening it much beyond that mark. They are, therefore, "prepared to recommend the application of the methods and details heretofore described, to the lower river, from Commerce, Missouri, downward, with such continuity as will not only improve the immediate localities where navigation is now bad, but will also establish and retain such control over the high-water discharge as will arrest that tendency toward deterioration which has rendered the systematic improvement of the entire river necessary. While this order of progress is proper for works designed to amend and regulate the existing channel, those undertaken for the purpose of retaining or increasing the volume of discharge within the bed, such as levees and dams for closing outlets, should begin below and be carried continuously upstream."

The commission repeat (see "Annals Cyclopædia," 1880) their opinion of the utility of levees as a means "to prevent destructive floods," which, by confining the flood-waters of the river within limits, tend to increase the scouring and deepening power of the current. Their researches into the early condition of the banks of the Mississippi bring only meager information. The discoverers and adventurers did not direct their observations in scientific directions. They report that its immediate banks were densely clothed with forests and cane (*Arundo gigantea*). Cane will not grow on land subject to inundation, therefore it marks the precise limits of habitual overflow. A canebrake is, perhaps, the best possible device to check water encroachment, by causing a sedimentary deposit and consequent elevation of the bank. Darby (1817) states, in his "Statistics of Louisiana":

In common years the rise begins about the 1st of March and increases rapidly until the river's bed, glutted, throws the superfluous water through innumerable channels into the back reservoirs. The increase of elevation is then slow, and a diurnal decrement is perceived, owing to the continually increased surface that must be overflowed. Many outlets occur, . . . but few lakes, in the true acceptance of the term, are found. The banks of the river are generally above overflow, and are composed of the most productive soil, gradually sloping back by an inclination that gives from one quarter to one and a quarter miles width before the plain sinks below the surface of high water.

Without human testimony, physical reasons compel the belief that, before the lands adjacent to the main stream and its tributaries were cleared, the elevation of the river-banks conformed more nearly to the flood-plane of the river than at present. Levees undertaken for reclamation must now maintain the former height of the banks to preserve navigation. Bank-building near the mouth of the river is, at this moment, progressing under the same conditions, and each *crevasse* demonstrates this truth. At Bonnet Carré the deposit, extending back to Lake Pontchartrain, four or five miles distant, is ten to twelve feet high. Through these sand-hillocks outlets—probably drainage canals of the old plantations—keep themselves open. The banks of cut-off lakes add their conclusive evidence. In front of Lake Concordia the main height of the bank of the present river is one hundred and forty-eight feet, while the height of the bank of the old river is one hundred and fifty-three feet. In estimating this difference a uniform average flood-height is supposed, and there is no proof to the contrary. G. W. R. Bayley, before the American Society of Civil Engineers, says: "There is no evidence that the normal flood-line of the Mississippi River, from Red River to the head of the passes (except where affected by cut-off), is a fraction of an inch higher now than in 1717, before the commencement of the levee system, but there is evidence that it is not higher." Professor Forshey concurs in this opinion. General Warren sums up the discussion before that enlightened body thus: "Obviously, we can not get the increased scour until we build the levees and close the outlets, so as to confine the escaping flood-waters." High-water marks at Natchez, dating back to 1802, compiled by Humphrey and Abbot, and brought down to date by the United States Engineer Corps, strongly corroborate this view. Beginning thirty years before the extension of levees above Red River, they show no change in the flood-elevation during eighty years. The effect of closing the outlets of the Atchafalaya is similar.

The flood-plane has not been raised since the settlement of the country. The clearing of the forests has accelerated caving, and prevented the gradual elevation of the banks by arrest and deposit of sediment. Levees, averaging eight feet in height, are part of the normal bank.

These levees extend on both banks of the river for a distance of sixteen hundred miles, out of a total alluvial shore-line of about twenty-two hundred miles. They attain, occasionally, a height of from fifteen to twenty feet, exclusive of the dikes, closing well-defined outlets, when they frequently have a height of forty feet. Were those dikes removed, they would admit the main supply of the largest rivers in the valley. . . . The commission has already reported adversely to the influence of such lateral channels. Also, below many of the largest of these artificial embankments are parts of the river where navigation is now exceedingly difficult. . . . Certainly the maintenance of volume is important in preventing such obstructions. But, apart from these as extreme cases, is not the retention of such part of the flood-discharge as is now held by an average height of seven or eight feet of artificial embankment necessary to maintain the navigation of the river in its present condition? Without these, the most moderate floods would overtop the banks and disperse their waters through the innumerable lateral swamp-drains from bluff to bluff, with loss of velocity and consequent obstruction of channel. If this description of the present status of levees is true, it must be borne in mind that the causes by which it was brought about are not local, but exist in every tributary valley. The disturbance of the forest and sod-covered surface, and the undue precipitation of drainage, extend to the head-waters of the Mississippi, of the Ohio, and of the Missouri, while the remedies which have been opposed to these evils—the placing artificial barriers to such dispersion of flood-waters as would have been highly injurious to navigation, and the maintenance of these barriers—have been exclusively done by the riparian States and proprietors. While, doubtless, the motive was reclamation and self-protection, we believe that much of the benefit accrued to other sections of the country, equally interested in the navigation of the river, and equally responsible for its deterioration. Without discussing the equity of this condition of affairs, we earnestly represent that it is extremely hazardous, as a system of such character and magnitude can only be maintained by unity of administration, by promptness of action, and by large expenditures. Neither of these is, or can be, secured while the work is left under the present management. Its history sustains this statement.

The report proceeds to array the opinions of competent authorities who have studied the subject in its scientific aspects, all favoring the levee and jetty systems, and reprobating the outlet theory. It then cites instance after instance where closing outlets and regulating banks have washed out channels and removed even such obstacles as the raft in the Atchafalaya. In the Lafourche, whose lower portion is unleveed and free to discharge itself laterally by numberless outlets, the effect has been to narrow the channel one third or fourth of that above, where it is confined. Between the levees it has not filled to any appreciable degree; the elevation takes place where the outlets occur. The obstruction there backs up the water and raises the water-line, so that year by year the height of the levees must be increased. Red River runs through an alluvial soil, like the Mississippi, and its levees have undoubtedly lowered the river-bed. The President of the New Orleans and Red River Transportation Company, to show the effect of jetties on river-bars, states that Snaggy-Point Bar, seventy-five miles above the mouth of the river, and Alexandria Bar, three miles below the town of that

name, have, in low water, proved almost impassable, having a depth of only from fifteen to twenty-four inches. This company, in 1876, placed a jetty of willow mattresses in Snaggy Bar, and in forty-eight hours the depth had increased from twenty inches to five and a half feet. In 1877, after the high water, the jetty was found intact, and, during the extremely low water of that year, there was a steep channel and not a moment's detention to navigation. The company, in the autumn of 1877, placed jetties on Alexandria Bar, where their boats, after transshipment of cargo, could not pull across. From sixteen inches, a four and a half to five feet channel was gained, although the river continued to fall during several weeks afterward. Freight charges, in consequence, were lowered one third.

Between the Red River and the Gulf of Mexico, the prairies west of the Têche and the Mississippi, exists a net-work of rivers and bayous. Sloping both south and east, it has a double system of drainage. The more westerly of these water-courses are in a state of decadence, the more easterly are increasing. The deposits of the Red River are clearly traceable in their banks, showing that at different times that stream has poured through each of them. It seems probable that the Robert, Bœuf, and Têche Bayous once constituted the main continuation of the Red, while the Atchafalaya was the lower trunk of the Black and Ouachita, and a clear stream. These various changes have occurred during high water, from their tendency, through the slope of the valley, to seek an easterly *débouchure*. Choked by the raft, which moves steadily up stream, from accretion at the head and decay at the foot, the Red River seeks lateral outlets. At one time the Atchafalaya, thirty miles from the Mississippi, was covered with rafts which became solid floating bridges. The State of Louisiana undertook the removal of this obstruction, and the rapid enlargement of the stream followed. The old residents testify that whereas it was shot-gun distance across, it is now fully rifle-distance. Its navigation is now good, but the fine plantations that once bordered it are wholly abandoned, and lands once above overflow are at present constantly submerged. Yet the increase of the Atchafalaya as an outlet of the Mississippi has caused no reduction of the flood elevation of that river.

The distance to the Gulf by the Atchafalaya is 160 miles and the average fall per mile is $3\frac{3}{8}$ inches, while the distance by the Mississippi is 327 miles, and the fall less than $1\frac{1}{8}$ inch per mile. The flood and low-water grades of the Red and Atchafalaya Rivers are below those of the Mississippi in the same latitude.

The commission apprehend the enlargement of the Atchafalaya, even to the point of becoming the main river. The diversion of the discharge of the Mississippi would impair the navigation below and through the jetties, jeopardizing the commerce of the valley and the in-

terests of its port, while the establishment of favorable navigation through the Atchafalaya could only belong to some distant and doubtful day. The commission, therefore, recommend the building of a continuous brush-sill across Old River, between Turnbull's Island and the Mississippi, with the object of checking the enlargement of that outlet.

Floods of an abnormal nature occurred in the Missouri during the spring of 1881. The preceding winter was unusually severe, and the river was entirely closed in November. A February thaw caused an overflow and piled up ice. When the spring rises began, these gorges broke above Sioux City, and the snow-water came sweeping down, submerging the valley for 600 miles. One flood came down on the 7th of April and another on the 22d. The river was out of its bed. It was transferred from its ordinary section to one of slight depth and great width. The slope was nearly doubled, but owing to frictional resistance the rear water piled upon that in front and produced the unusual rise of from five to eight feet.

Hence, if the flood had been restrained by levees where necessary, and, still better, if the high-water section had been reduced to any approximately uniform and suitable width, the water-surface would nowhere have surpassed, and would generally have fallen much below, the level of the present banks. . . . Any fill which took place in the bed proper during the overflow, was pretty much scoured out on the falling stage, after the river got within its banks again. From all points it was reported that during this period the force and velocity of the current were extraordinary. Bars which had been permanent fixtures for years were removed and a general deepening was noticed on all sounded sections. But on islands and bars which were sheltered from this great scour, the depth of the deposit gives sufficient evidence of the extent to which fill took place during the overflow.

Extensive changes in the channel resulted, which exercised a serious influence on the projected system of improvement.

Up to a recent date it has been supposed that the bed of the Mississippi consists of layers of tenacious blue clay belonging to the tertiary formation, so little susceptible of erosion that it is practically permanent. To determine this point, under the direction of the Engineer Department of the United States Army, and latterly of the commission, borings in eighty-three places have been made. Though these borings were not less than one hundred, and oftentimes more than two hundred feet in depth, only twenty-two pierced the alluvial deposits and reached the underlying tertiary beds. It appears, then, that the great trough in which the river runs was hollowed for a still mightier stream.

The depth of these alluvial beds averaging one hundred and thirty-one feet below high water of 1880, it follows that it can only be in exceptional cases that the river scours down to the clay, and there is space for deepening, should it ever become desirable. Nor would this underlying stratum offer insuperable diffi-

culties if erosion became necessary. In the northern portions of the valley it consists of clay and sand with beds of lignite; in the southern, of greensand, marls, and marly clay.

Below Cairo the alluvium of the Mississippi occupies a huge trough carved out of the soft eocene tertiary layers, bounded by loess-capped bluffs. Westward of this ridge, between Commerce, Missouri, and Helena, Arkansas, is another alluvial region, nearly as extensive as that of the Mississippi, whose basin, drained by insignificant streams, was probably excavated by floods caused by erosion of the present valley of the Mississippi. This alluvium consists of clays, sands, and gravel largely siliceous, the material generally growing coarser as it descends below the surface. Deeply seated extensive clay layers are rare and wanting in traces of vegetation. Remains of trees in a vertical position are sometimes seen in a cutting bank, but not lower than depressions in the bottom-lands where forests are now growing, remote from the channel. Logs in good preservation are found deeply imbedded in sand or gravel, but their position and the absence of bark show that they are drifts. Borings during 1879 revealed the general law that the nearer the Gulf the deeper the surface-silt deposits, and the greater the surface changes from fluvial forces. The clay beds are sometimes entirely wanting, and sometimes, as at the foot of cut-off bends, they may be of great thickness, the deep trough having been slowly filled with the finer silt. At Lake Providence a depth of one hundred and nine feet of fine clay and sand is separated from the lignite by a bed of unusually heavy gravel.

There is a decrease in the size of the gravel as the river is descended, especially below Lake Providence. The gravel layers are of identical material above the mouth of the Arkansas; below it, the larger pebbles are of siliceous clay, stones, and of white cherty material. Red and yellow jasper, brown-stone, chert, clay-balls, and water-worn lignite compose the gravel-beds. The sand, which is usually found between the surface clays and the gravel layers, is always siliceous, and generally water-worn. Mica and the whitish-gray sand of the northern lignitic group are lacking in the alluvial strata. Crystals of iron pyrites are sometimes found in the gravel-beds. Water from wells throughout this region is strongly impregnated with iron, and unpalatable. Water nearer the surface is preferred, being clear and agreeable; but it is saturated with vegetable impurities, and productive of malarial disorders. So far, no wells have been sunk through the alluvium into the older strata.

The bluffs on either side of the Mississippi below Cairo are composed at top of the quaternary loess, resting upon the orange sand, or bluff gravel, which in turn rests upon the tertiary layers. The thickness of the loess varies continually, depending upon the elevation of the orange sand as left by the glacial floods. The thickness of the orange-sand deposit,

even at points nearly adjacent, also varies greatly, and depends not only upon the height at which its upper surface has been left by the subsidence of the glacial flood, but also upon the height of the upper surface of the underlying tertiary formation, which had been at some point deeply furrowed by the glacial waters, whose central current plowed out the huge alluvial trough of the Mississippi.

All the borings between Cairo and the Gulf show that the alluvium rests on tertiary deposits. Back of Helena were found the first marine tertiary strata which prevail below Helena as the underlying formation. High banks, far from marking tertiary deposits, cover the deepest alluvial beds of the Mississippi bottoms. Vegetation imbedded in the clays near the surface proves that they were not built up, as is the alluvion, and afterward elevated by earthquake-action. To some water agency mightier than the modern Mississippi must this formation be attributed. Professor Potter supposes that these high prairies are the sand-bars of the glacial stream. The small size of the fossil shells indicates the periodic destruction of the salt-water tribes by northern fresh waters anterior to this glacial flood.

Southward of Gainesville there are beds of white quartzite. This extraordinary Silurian outcrop is doubtless due to the induration of the white tertiary sand, like that shown in the borings near New Madrid and Plum Point.

In these two vicinities the bed material which offered the most resistance to boring-tools is lignite. Below Memphis are beds of hard clay, popularly known as soap-stone, which were reached at ninety feet beneath the high-water mark of 1880. At Helena and Choctaw Bar there are stiff clays, probably of concretionary origin. Near Greenville, sub-alluvial layers were found at 88.4 feet, the least depth below the surface anywhere obtained. Save in one or two instances, nothing was discovered in the alluvial layers beneath the surface clays which would offer any decided resistance to erosion. There is no difficulty in working in material such as this, were it judged proper to deepen the bed of the river. In an engineering point of view this conclusion is important. It also affects the question of levees. Unnecessary heights have been proposed for them, on the assumption that there is an immovable river-bed. Their estimated cost, made on these grounds, can certainly be diminished.

The commission are not in possession of the data deemed necessary in making a trustworthy estimate of the entire cost of a levee system, but a great reduction is evidently practicable in the amount of former estimates based on the assumed existence of a river-bed not subject to erosion, and on levee-work at forty or fifty cents per cubic yard.

The discussion establishes a strong presumption that the levees of the Mississippi do not now stand as works superimposed on the normal banks to restrain additional flood-volume, but as artificial barriers to replace that natural height of bank which has been lost from causes connected with the occupation and cultivation, not only of the banks of the main stream, but also of the basins drained by the tributaries. Their present function is not so much to increase the flood-volume abnormally as to maintain that part

of it which would otherwise be lost from the degradation of the banks.

It may be said of outlets (which term we restrict to well-defined depressions connecting the river with the swamps and their drains on either side, while it is still within its banks) that, whenever they are directly connected with the improvement and maintenance of navigation, they should be efficiently and permanently closed.

Were the volume and elevation of the river constant from season to season, as it flows through yielding soil, it would adjust itself to its bed and find a permanent pathway. But in flood and at its low stage there are such differences of elevation, velocity, and new direction alternately flowing along the same general course, each modifying the mold of the other, and each obstructed by the other's work, that in effect they are two different streams. All these intricate questions of action and reaction, each exercising a controlling influence as the river rises, falls, or rests at the intermediate stage, have a practical bearing on the revetments and contraction works.

On April 27, 1876, the river broke through a long peninsula jutting out from the Louisiana shore in front of Vicksburg. This cut-off changed the channel, and its damaging effects may be traced for two hundred miles. The harbor of Vicksburg, once the finest on the river, began to silt up, and the changes were so rapid and so alarming that a board of engineer officers was convened, who recommended revetments and dikes, followed by dredging out of the harbor, and, if these prove insufficient, that the Yazoo River be diverted, to assist in keeping open the lake that is forming. Congress has already expended \$229,000 on these works; but, before they had progressed sufficiently to arrest the filling process, the lower part of the harbor received so much deposit that it goes dry at twenty feet above low water. Though the upper end is still open, the channel is so circuitous that at low stage the wharfbats are moved down below the bar two miles from the old landing. The dredging and revetment now needed will cost \$436,000. Only after their completion need the question of diverting the Yazoo be considered.

Above St. Louis the Mississippi is a clear river. The Missouri brings a vast amount of sediment. At St. Charles, in 1879, the sediment by weight amounted to $\frac{1}{88}$ part of the total river-discharge, and on July 4th it was $\frac{1}{37}$ of the discharge. If no sediment is derived from the upper river, the average sediment ratio of the Mississippi below the junction is $\frac{1}{880}$. The effect of this sediment is felt far down. At Carrollton it averages $\frac{1}{1800}$ and at Columbus $\frac{1}{1321}$. The low-water discharge at St. Louis is about 47,000 cubic feet per second; the high-water discharge is twenty times as great. At St. Louis the range in stage is thirty-seven and at Cairo fifty-one feet.

Between St. Louis and the mouth of the Ohio the Mississippi flows within rock bluffs, or else wanders between alluvial valleys with

caving banks. There are points of shifting shoals and bad navigation wherever the river is more than 2,500 feet wide. At Kaskaskia, sixty-three miles from St. Louis, and sixteen miles below that city, at Widow Beard's Island, during low water, the channel gave four feet. A uniform minimum depth of ten feet is attainable by the same means applied to the lower river, except at Grand Chain, where removal of bowlders and points of rock is advisable.

The committee desire additional legislation to define their powers and appoint the manner in which owners are to be compensated for material used. An ascertained authority over the river and over the newly-formed banks, where willows and other trees must be planted, is necessary to prosecute the work successfully. The report of the commission is a statement of facts, not theories. None the less it is a conclusive argument against outlets, and for closed gaps, continuous levees, narrow banks, and the jetty system. The Atchafalaya is an "outlet," and apparently one of most formidable proportions. Between 1851 and 1870, at its head, the cross-section increased from 24,400 to 52,100 feet. Between 1878 and 1879 the discharge swelled from 120,000 to 180,000 cubic feet per second. Within fifty years the discharge of that river has trebled. Already one sixth of the volume of the Mississippi passes through the Atchafalaya. "The elevation of the water-surface of the junction of Old River and the Mississippi," says the report, "is almost constantly above that at the head of the Atchafalaya, the difference on the 13th of last October being $7\frac{3}{16}$ feet in a distance of about five miles." A fall like this of over a foot a mile is sufficient to drain the Mississippi, which is now, with the Red River, tributary to the Atchafalaya. Those whose zeal without knowledge propose outlets as a remedy for all perils by shoal and flood, should learn by the "inexorable logic of events" that the bed of the Atchafalaya has been deepened and its flood-surface lowered by the additional volume of water sweeping through it; while the Mississippi, under the injurious effects of its outlet, shows a higher elevation of the flood level, menacing the country above Red River with overflow; and the lower river, shorn of its due proportions, can no longer sweep out its own pathway, bearing onward silt and *débris* through stable banks and jetties to drop them into the deep waters of the Gulf of Mexico.

The report embodies the results of a careful study of data in regard to slope, velocity, sediment, and the mutual relations of river sections under different conditions of discharge and curvature and reservoir action. "It needs no argument to prove that drainage and reclamation of swamps and wet lands generally must be destructive of the natural reservoir action, and hence that the variations of volume of any given stream will be more extreme

as agricultural improvements are extended and perfected." Eliminating all hypothetical arguments, they sum up their views by restating from their first report:

If the normal volume of water in a silt-bearing stream, flowing in an alluvial bed of its own formation, be permanently increased, there will result an increase of velocity, and consequently of erosion and silt-bearing power, an increase of area of average cross-section, an ultimate lowering of the surface slope; and, conversely, if the normal flow be decreased in volume, there will ensue a decrease of velocity, silt-transporting power, and mean sectional area, and an ultimate raising of the surface slope.

The Mississippi makes its own bed, and where there is a deposit of sediment there the current lacks strength to carry it on. Wherever there is a permanent channel there the force of gravity and the force of the current are in equilibrium. Levees compress the current and make it sweep out obstructions. An expenditure of \$2,000,000 could, within two years, restore the levees and effect these results. In giving safety to navigation the concomitant would be security to agriculture and commerce within the vast area affected. Levees must be continuous to be protections, yet States are constitutionally forbidden to combine for this or any other purpose. The Federal Government alone has the power and the right to institute measures to prevent the deterioration which is taking place in the noblest stream on the face of the globe. It is fast becoming useless for navigation, and a source only of overwhelming disaster to the dwellers on its banks.

MISSOURI. The presidential vote in 1880 was as follows: for the Hancock electors, 208,609; Garfield electors, 153,567; Weaver electors, 35,135. The Legislature, consisting of 25 Democrats, 7 Republicans, and 2 Greenbackers in the Senate, and 98 Democrats, 42 Republicans, and 3 Greenbackers in the House, met on the 5th of January of the present year and remained in session until the 28th of March. On the 18th of January Francis M. Cockrell was re-elected United States Senator. The vote was as follows:

PARTIES.	Senate.	House.
Francis M. Cockrell, Democrat	24	94
David P. Dyer, Republican	5	37
G. B. De Bernard, Greenbacker	2	4
James O. Broadhead, Democrat .....	..	1
Total	31	136

A constitutional amendment was adopted for submission to the people providing for increasing the number of the judges of the Supreme Court to six, and for dividing the court into two branches.

The April election in the city of St. Louis resulted in the election of the Republican candidates. The following are the majorities of the successful candidates, out of a total vote of 36,357:

Ewing, Mayor	16,255
Adreon, Comptroller	6,358
Merrell, Treasurer	4,970
Smith, Auditor	3,686
Berg, Register	5,438
Hudson, Collector	1,287
Thomas, Marshal	5,090
Rudolph, Weights and Measures	4,532
Powers, President of Board of Assessors	4,424
Flad, Board of Public Improvements	7,699
Parker, President of City Council	5,058

The Republican candidates for the Council had majorities ranging from 4,000 to 5,000.

The number of children of school age in 1880 was 702,153; in 1881 it was 725,806, an increase of 23,653. The amount of public-school money distributed in 1880 was \$515,286.09; in 1881 it was \$519,001.16, an increase of \$3,715.07. The per capita in 1880 was 73.³/₁₀; in 1881 it was 71.⁵/₁₀.

The State debt of Missouri, according to the State Auditor's last report, dated January 1, 1881, was \$16,259,000. This did not include \$250,000 revenue bonds, then outstanding but since paid, nor the \$3,000,000 bonds loaned to the Hannibal and St. Joseph Railroad. The face of these bonds has since been paid into the State Treasury, but the bonds not redeemed. The money remains in the Treasury. The above amount of \$16,259,000 was contracted on account of the following railroad companies and other objects named:

St. Louis and Iron Mountain Railroad...	\$1,361,000
Cairo and Fulton Railroad	267,000
North Missouri Railroad	1,694,000
State debt proper	439,000
Pacific Railroad	2,971,000
Consolidation	2,727,000
Platte County Railroad	504,000
State University	201,000
Northwestern Lunatic Asylum	200,000
State Bank stock refunding	104,000
State funding	1,000,000
Penitentiary indemnity	41,000
Renewal funding	3,850,000
School-fund certificate indebtedness....	900,000

Total..... \$16,259,000

This debt bears 6 per cent interest, and is due as follows:

In 1882	\$17,000	In 1890	\$242,000
In 1883	422,000	In 1892	401,000
In 1885	4,000	In 1894	504,000
In 1886	1,922,000	In 1895	3,228,000
In 1887	3,242,000	In 1896	425,000
In 1888	3,251,000	In 1897	838,000
In 1889	863,000		
Total			\$16,259,000

The \$900,000 indebtedness to the school fund is nominal only, as it is simply the amount of a debt due by the State to itself.

Some difficulty exists as to the bonds issued to the Hannibal and St. Joseph Railroad Company, because they have an average of some ten years to run, and bear 6 per cent. The State has no use at present for the money. It lies unproductive in the Treasury, while the bonds draw interest. The Fund Commissioners maintain that the law under which the road accepted the loan compels the company to hold the State harmless as well for the interest as the principal. The company claims that, having paid the principal and all interest to date,

under the law of 1865, it has discharged its entire obligation. This matter is in litigation. As the State could not realize, by the purchase of its own bonds not yet due or subject to call, more than 3 per cent, or $3\frac{1}{2}$, and could not realize even this much by depositing the money, the matter involved is the difference in interest—say 3 per cent—on \$3,000,000, or such portion as could not be used for such time as must elapse till State bonds in excess of the resources of the ordinary sinking fund became payable. Under the provisions of the State Constitution, there must be collected for the sinking fund not less than \$250,000 annually. With the increasing resources of the State and the diminishing interest charge, it will be easy to pay the entire debt as early as its terms permit its payment, and indeed it could be paid in ten years without inflicting an onerous burden on the people.

Early in the year the Secretary of State made a call on all the banks and bankers in the State for a statement of their financial condition on the 31st day of December, 1880. From these statements, and like statements made by the national banks of the State for the same day to the Comptroller of the Currency, the loans and discounts were \$45,661,794; the loans on real estate, \$2,104,708; amounts invested in stocks and bonds, \$5,266,238; invested in real estate, \$1,191,628; cash and cash items (including amounts due from banks and good on sight-draft), \$25,152,794; sight deposits, \$46,592,565; time deposits, \$9,183,688; due banks, \$9,505,892; amount of capital, \$13,784,006; surplus, \$4,645,259. Total assets, \$87,030,987. On the date of this statement there were in the State 108 incorporated banks, 81 private banks, and 21 national banks.

On the 28th day of December, 1878, the statements of the banks of the State of that date showed the following: Loans and discounts, \$29,069,159; loans on real estate, \$1,969,013; stocks and bonds, \$5,947,616; real estate, \$2,227,765; cash and cash items, \$18,597,350; sight deposits, \$25,023,590; time deposits, \$8,805,357; due banks, \$6,147,189; capital, \$14,645,045; surplus, \$4,227,862; total assets, \$61,647,550. The total number of banks in the State at the date of this statement was: Incorporated banks, 110; private banks, 68; national banks, 21. The increase in the two years in loans and discounts is \$16,592,635; in loans on real estate, \$235,695; in cash and cash items, \$6,555,444; in sight deposits, \$21,569,066; in time deposits, \$378,331; in amounts due banks, \$3,458,703; in surplus, \$417,397; in total assets, \$25,383,437; and the decrease as follows: In amount invested in stocks and bonds, \$618,378; in real estate, \$236,137; and in capital, \$861,039.

The internal revenue receipts for the fiscal year ending June 30th, as compared with those of the previous year, for Missouri, were as follows:

DISTRICTS.	1880.	1880.
First district.....	\$5,543,384	\$4,680,266
Second district.....	66,451	61,636
Fourth district.....	383,471	382,996
Fifth district.....	145,572	118,826
Sixth district.....	326,822	259,930

On July 1st the State Fund Commissioners issued the certificate of indebtedness required by the act of March 23, 1881, to be deposited in the State Treasury for the permanent school fund of the State and for the seminary fund. The first-named certificate was for the sum of \$2,909,000, payable thirty years from date, at 6 per cent interest, and was in lieu of the 2,009 Missouri State 6 per cent bonds and the \$900,000 certificate of indebtedness held in trust by the State for the permanent school fund.

The second certificate was for \$122,000, running thirty years, with 6 per cent interest, and was in lieu of the 122 Missouri 6 per cent bonds held in trust by the State for the seminary fund.

These certificates are to be held and remain a sacred and irrevocable obligation of the State, unconvertible and untransferable from the purposes of their issue, and are to continue as representing the respective amounts of the permanent school and seminary funds of the State.

The State, according to the Federal censuses of 1880 and 1870, produced 24,971,727 and 14,315,026 bushels of wheat and 203,464,620 and 66,034,074 bushels of corn in the respective census years. Of tobacco, the yield in 1880 was 11,994,077 pounds. In the same year 556,304 tons of coal were mined.

The following list shows the valuations placed by the county assessors and the State Board of Equalization on the taxable property of the State for the year 1880. The total shows an increase, over the valuation of two years previous, of \$40,855,821:

PROPERTY.	In the city of St. Louis.	Total in State.
Lands.....		\$227,006,710
Town-lots.....	\$139,704,290	179,097,716
Horses.....	805,070	22,281,872
Mules.....	113,120	7,583,088
Asses and jennets.....		187,997
Cattle.....	181,130	22,181,795
Sheep.....	380	2,348,521
Hogs.....	8,870	6,068,645
All other live-stock.....		185,484
Money, notes, and bonds.....	7,712,200	45,506,845
Corporate companies.....	6,578,500	8,202,796
Brokers and exchange dealers....	58,000	1,745,536
All other personal property.....	10,572,980	47,022,780
Total in St. Louis.....	\$165,734,540	
Grand total in the State.....		\$569,369,785
Total values in 1878.....		528,513,964
Increase.....		\$40,855,821

The above does not include the values of railroads, bridges, telegraph companies, etc. The value of those classes of property amounts to about \$40,000,000.

The following table exhibits the gross re-

ceipts and shipments of cotton at St. Louis for three years, by months:

MONTHS.	Receipts for 1878-'79.		Shipm'ts for 1878-'79.		Receipts for 1879-'80.		Shipm'ts for 1879-'80.		Receipts for 1880-'81.		Shipm'ts for 1880-'81.	
September.	15,233	9,983	44,847	26,302	12,883				12,563			
October....	82,762	51,994	96,225	63,796	58,187				41,950			
November....	60,398	61,801	103,015	89,059	67,889				53,917			
December....	56,265	43,440	95,485	82,441	72,053				60,799			
January....	21,186	84,907	54,062	47,250	45,056				50,602			
February....	32,372	33,220	39,449	43,906	36,060				33,033			
March....	27,121	35,552	21,475	31,276	45,404				36,575			
April....	21,870	29,486	11,362	23,137	24,337				36,506			
May....	9,598	16,081	7,018	22,326	17,520				30,610			
June....	1,831	4,232	3,716	25,075	10,336				19,606			
July....	870	3,405	2,650	12,239	8,879				12,333			
August....	660	2,950	1,224	7,879	4,602				8,463			
Total....	330,936	332,101	430,028	479,636	402,706				402,043			
Stock.....	825	1,161	1,161	7,567	7,567				8,225			
Total....	331,761	333,262	431,189	487,153	410,273				410,273			

WAREHOUSE OR NET STATEMENT OF RECEIPTS AND SHIPMENTS, AND STOCKS ON HAND, FOR SIX YEARS.

	1875-'6	1876-'7.	1877-'8.	1878-'9	'79-'80.	1880-'1.
Stock, September 1.						
Rec'd during year.	246	2,220	1,501	825	1,161	7,567
Total....	159,810	167,027	205,861	237,437	358,124	317,196
Ship'ts during year.	160,066	170,147	207,362	238,262	359,235	324,762
Stock, September 1.	157,836	163,646	206,537	237,101	351,815	316,537
Total....	2,220	1,501	825	1,161	7,467	8,225

The following table shows the movement of cattle in the St. Louis market for two years:

MONTHS.	RECEIPTS.		SHIPMENTS.	
	1881.	1880.	1881.	1880.
January.....	29,113	28,143	19,058	12,267
February.....	34,616	26,330	23,833	16,443
March.....	37,110	35,937	26,437	21,295
April.....	39,741	41,012	29,190	27,293
May.....	41,867	37,497	39,172	24,259
June.....	46,372	45,805	29,673	28,881
July.....	45,249	46,552	26,577	23,596
August.....	54,020	42,771	25,113	26,258
September....	52,081	41,682	24,332	19,409
October.....	53,541	31,873	23,398	11,551
November....	45,205	28,263	20,296	7,800
December....	24,947	18,790	13,298	8,537
Total.....	504,552	424,720	292,427	228,379

The receipts of cattle for the year show an increase of 80,132 head over those of 1880. The movement of hogs for two years has been as follows:

MONTHS.	RECEIPTS.		SHIPMENTS.	
	1881.	1880.	1881.	1880.
January.....	202,567	176,032	113,052	46,952
February.....	136,818	99,571	85,563	49,333
March.....	105,503	110,352	76,828	69,943
April.....	125,602	149,134	77,233	101,530
May.....	153,329	180,005	93,373	103,447
June.....	146,405	170,933	85,192	97,318
July.....	104,921	119,202	55,233	57,421
August.....	102,834	117,003	67,350	43,185
September....	137,442	123,957	67,190	44,862
October.....	133,346	129,379	80,552	72,716
November....	139,600	263,176	54,858	88,944
December....	133,786	201,940	28,590	89,618
Total.....	1,572,153	1,840,684	779,574	770,769

The drought exerted considerable influence in hog raising and feeding, and as a result the receipts were short 268,531 head. The following table shows the movement of sheep for two years:

MONTHS.	RECEIPTS.		SHIPMENTS.	
	1881.	1880.	1881.	1880.
January.....	19,865	13,753	9,225	5,731
February.....	26,984	24,054	14,818	15,601
March.....	32,642	29,343	18,856	20,453
April.....	22,219	25,189	12,230	13,179
May.....	11,451	13,970	3,596	5,417
June.....	21,536	15,149	9,176	6,400
July.....	13,193	11,933	7,791	3,575
August.....	45,524	13,720	13,039	6,496
September....	38,817	20,415	23,921	8,040
October.....	38,282	11,954	21,813	4,041
November....	39,107	10,758	20,774	1,477
December....	19,306	10,631	10,002	3,052
Total.....	334,426	205,969	169,769	93,562

The gain is 35 per cent over the year previous. The movement of horses and mules for two years has been as follows:

MONTHS.	RECEIPTS.		SHIPMENTS.	
	1881.	1880.	1881.	1880.
January.....	4,672	11,846	5,642	10,545
February.....	6,957	6,172	7,398	7,419
March.....	6,467	5,357	6,667	5,585
April.....	3,247	3,567	2,924	3,597
May.....	3,142	2,221	2,201	2,030
June.....	3,698	1,588	2,333	1,804
July.....	3,038	2,045	2,216	1,560
August.....	2,476	2,695	2,168	1,663
September....	2,571	3,292	3,471	2,755
October.....	2,513	2,637	2,557	2,939
November....	1,823	2,047	2,671	1,893
December....	1,768	2,485	2,273	2,591
Total.....	41,372	46,011	43,331	44,416

A convention for the improvement of the Mississippi River and its tributaries was held in St. Louis during three days commencing on the 26th of October. It was called under the auspices of the Merchants' Exchange of St. Louis. The basis of representation was two delegates for every hundred members of each board of trade and cotton exchange in each city situated on the Mississippi River and its tributaries, and each board of trade and cotton exchange was entitled to at least two delegates; and where no boards of trade exist the mayors of said towns and cities were requested to appoint two delegates; the Governors of the States and Territories of the Mississippi Valley were requested to appoint ten delegates from the States and five from the Territories as delegates at large.

The members of each House of Congress were specially invited to attend; also, the Governor of each State in the Union.

The call stated that, "while the national Government has given to the various railroads up to the year 1878 nearly two hundred million acres of the public domain, worth at least \$1.25 per acre, and to some it loaned its credit besides—for anticipated benefits to the people—during this time the Mississippi River and its tributaries have had appropriated for their im-

provement an amount not quite twenty million dollars."

The convention was well attended. The following resolutions were adopted:

The representatives of the commercial interest and agricultural and other productive industries of the Mississippi Valley, in convention assembled at St. Louis, Missouri, believing that the Mississippi River and its navigable tributaries, the great inland waterways prepared by the Creator for the use of the people, are a most important and valuable part of the national domain, free to all beyond the reach of monopoly, and affording to the whole people that competition in transportation which benefits both producer and consumer alike; and further, that cheap transportation is the great necessity of an agricultural people, the indispensable condition of the easy conveyance to distant markets of their staple products, bulky in proportion to value, and that the familiar economical truth, that the cheapest transportation of such products is by water, is especially applicable to the great water-ways of this country, provided the same be kept free from snags, sand-bars, treacherous banks, and other obstacles to navigation, do therefore resolve and declare:

1. That it is the manifest and imperative duty of the Government of the United States to cause to be made such improvement of the Mississippi River, and its navigable tributaries, as shall permanently secure the safe and easy navigation thereof, thereby cheapening freights, reducing insurance and other burdens and expenses; promoting the vast inland commerce of the nation and creating new avenues of foreign trade, and thus not only inviting increased production and population, but assuring greater prosperity to the whole people. Especially is this duty obvious, and our demand justified, in view of the donations already made by Congress in land, amounting to nearly 200,000,000 acres, and in bonds issued or guaranteed, nearly \$100,000,000 more, in aid of artificial highways, the property of private individuals, and necessarily furnishing, even at lowest rates, the most costly form of transportation on a large scale, as compared with appropriations not yet amounting to \$25,000,000 in all, for the improvement of 15,000 miles of natural water-ways, whose freedom from tax imposed or monopoly is protected by constitutional guarantees, while the cheap service and unrestricted competition they afford is the most effectual corrective of exorbitant charges by any route to the sea-board. That the appropriations for such improvements should be separately made, with due provision for assuring the people of their faithful applications to the same, and should be adequate to the continued prosecution of the work once begun until the same is finished, so as to avoid the wasteful destruction of work partially completed by reason of the delay or stoppage thereof for want of sufficient appropriations. And be it further

Resolved, That this convention recognizes with extreme satisfaction and emphatic approval in the passage of the act of Congress of June 28, 1879, "for the appointment of a Mississippi River commission," and in the comprehensive and scientific surveys and important recommendations made by the distinguished engineers appointed on that commission, as set forth in their reports of February 17, 1880, and January 8, 1881, the first well-considered and effectual step toward the complete and permanent opening of the Mississippi Valley to the markets of the world; but would also strongly express its regret at the refusal of the last Congress, after creating said commission, and notwithstanding the deliberate and emphatic approval of their plans by the House Committee on Improvement of the Mississippi, to appropriate the amount estimated and recommended by said commission for doing the work by them carefully laid out and proposed. And be it further

Resolved, That in the deliberate and earnest judgment

of this convention, delegated to represent the interests in that behalf of more than one half the States and Territories of the Union, inhabited by more than one half of its entire population, from whom is collected above 70 per cent of the entire internal revenue of the nation, whose internal commerce is already one half that of the whole United States, more than twelve times greater than the total foreign commerce of the nation, and larger than the total foreign commerce of the world—but upon whose industry is this year levied, by the obstacle to the safe and easy navigation of the Mississippi River and its navigable tributaries, a needless direct tax, by way of increased freights and insurance, demurrage, wrecks, and repairs of not less than \$10,000,000, it is the imperative duty of Congress and the right of the people, for whom this convention is authorized to speak, that the legislation thus wisely begun be made effectual and permanent by enlarging the powers of the river commission to include the active prosecution of the works already recommended by them, and by the regular and separate appropriations from year to year of such sums as said commission, acting under the reasonable supervision of Congress, shall report as necessary to that end; so that this great and indispensable work, national in every sense, shall no longer be delayed. And be it further

Resolved, That the scientific and comprehensive system of river improvement, by a competent commission thus inaugurated, should be applied to the complete and permanent improvement and maintenance of all the navigable tributaries of the great river. And be it further

Resolved, That this convention recognizes with great satisfaction the benefits already resulting to the navigation of the Mississippi River and its principal tributaries by the extension of the light-house system thereto; and expresses the earnest hope that the partial lighting of those rivers may be speedily enlarged by increasing the number of districts and lights to such an extent as the Light-House Board, in consultation with the river commission, shall find necessary to render such service completely efficient. And be it further

Resolved, That the president of this convention be and he is hereby authorized and requested to appoint at his early convenience a committee of twenty-one, who shall be charged with the duty of preparing, as soon as practicable after the convention adjourns, a memorial to the Congress of the United States, on behalf of the delegates composing this convention and the people whom they represent, in support of and in accordance with the foregoing resolutions, embodying such statistics and information as said committee may deem expedient; that they cause to be printed a sufficient number of copies of said resolutions and memorial, together with the proceedings of this convention, for wide distribution, and that a copy thereof be placed in the hands of each member of the United States Senate and House of Representatives as soon as practicable; and that said committee be and they are hereby authorized to take such further action touching the proper presentation of said resolutions and memorial to Congress and procuring the due consideration thereof as they may deem best.

Resolved, That in the interest of cheap transportation, and to afford a choice of water routes to the sea-board, we regard connections between the navigable waters of the upper Mississippi River and the Great Lakes as of great importance.

This convention was followed by a Missouri River Improvement Convention at St. Joseph, on the 29th of November, in which four States and two Territories were represented. The following are the resolutions adopted:

We, the people of the Missouri Valley in convention assembled, after careful and deliberate consultation, hereby declare that the improvement of the navi-

gation of the Missouri River is a matter of national interest and importance; that if the millions of fertile acres that lie upon its banks are afforded the advantages of cheap water transportation, its breadstuffs and products will cheapen the cost of living throughout the entire country; that in the distribution of the public money for the improvement of the navigable rivers of the country the Missouri River has been practically ignored; that the annual appropriation of a few thousand dollars for the improvement of this or that harbor, or the protection of some threatened point, is of no advantage or benefit in promoting the general usefulness of this waterway: therefore

Resolved, That we, the citizens of the States of Missouri, Kansas, Nebraska, and Iowa, and the Territories of Dakota and Montana, in convention assembled, do hereby appeal to the Congress of the United States for the creation of a Missouri River commission to consist of seven members—three Government engineers and four citizens—one from Missouri, one from Kansas, one from Nebraska, and one from Iowa; that an adequate appropriation be made to be expended by said commission for the general improvement of navigation of the Missouri River.

Resolved, That we hereby instruct our Senators and Representatives in the Congress of the United States

to use all efforts to secure the necessary legislation to accomplish these results.

Resolved, That the State delegations in this convention shall appoint three citizens from Missouri, three from Kansas, three from Iowa, three from Nebraska, one from Dakota, and one from Montana, who shall form a committee to memorialize Congress, to prepare and present statistics, and in every legitimate manner aid our Representatives in securing from Congress adequate appropriations for the improvement of the navigation of the Missouri River.

Resolved, That the whole proceedings of this convention be published in pamphlet form and distributed generally among the citizens of the Missouri Valley and the Senators and Representatives in Congress.

Resolved, That we are in hearty accord with the plan for the improvement of the Mississippi River and its tributaries, and urge upon the attention of Congress the importance of making liberal appropriations therefor.

Several robberies of railroad trains occurred in the State during the year.

The population of Missouri by counties, according to the census of 1880 and 1870, is as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adair.....	15,190	11,443	Grundy.....	15,185	10,567	Pemiscot.....	4,299	2,059
Andrew.....	16,318	15,187	Harrison.....	20,304	14,635	Perry.....	11,895	9,877
Atchison.....	14,556	8,440	Henry.....	23,906	17,401	Pettis.....	27,271	18,706
Audrain.....	19,732	12,807	Hickory.....	7,337	6,452	Phelps.....	12,568	10,506
Barry.....	14,405	10,373	Holt.....	15,599	11,652	Pike.....	26,715	23,076
Barton.....	10,332	5,037	Howard.....	18,423	17,233	Platte.....	17,866	17,852
Bates.....	23,331	15,960	Howell.....	8,314	4,213	Polk.....	15,734	12,445
Benton.....	12,396	11,322	Iron.....	8,133	6,278	Pulaski.....	7,250	4,714
Bollinger.....	11,130	3,162	Jackson.....	82,325	55,041	Putnam.....	18,555	11,217
Boone.....	25,422	20,765	Jasper.....	32,019	14,923	Ralls.....	11,833	10,510
Buchanan.....	49,792	35,109	Jefferson.....	13,736	15,330	Randolph.....	22,751	15,903
Butler.....	6,011	4,293	Johnson.....	23,172	24,643	Ray.....	20,190	13,700
Caldwell.....	13,646	11,390	Knox.....	13,047	10,974	Reynolds.....	5,722	3,756
Callaway.....	23,670	19,202	Laclede.....	11,524	9,330	Ripley.....	5,377	3,175
Camden.....	7,266	6,103	Lafayette.....	25,710	22,623	St. Charles.....	23,065	21,304
Cape Girardeau..	20,993	17,558	Lawrence.....	17,533	13,037	St. Clair.....	14,125	6,742
Carroll.....	23,274	17,446	Lewis.....	15,925	15,114	St. Francois.....	18,822	9,742
Carter.....	2,163	1,455	Lincoln.....	17,426	15,960	St. Genevieve.....	10,390	8,384
Cass.....	22,431	19,236	Linn.....	20,016	15,900	St. Louis.....	31,333	351,189
Cedar.....	10,741	9,474	Livingston.....	20,196	16,730	St. Louis city*..	350,513	.....
Chariton.....	25,224	19,136	McDonald.....	7,816	5,226	Saline.....	29,911	21,672
Christian.....	9,623	6,707	Macon.....	26,222	23,230	Schuyler.....	10,470	8,320
Clarke.....	15,031	13,667	Madison.....	8,376	5,349	Scotland.....	12,503	10,670
Clay.....	15,572	15,564	Maries.....	7,304	5,916	Scott.....	8,537	7,317
Clinton.....	16,073	14,063	Marion.....	24,337	23,730	Shannon.....	3,441	2,339
Cole.....	15,515	10,292	Mercer.....	14,673	11,537	Shelby.....	14,024	10,119
Cooper.....	21,596	20,692	Miller.....	9,805	6,616	Stoddard.....	13,431	8,535
Crawford.....	10,735	7,932	Mississippi.....	9,270	4,932	Stone.....	4,404	3,253
Dade.....	12,557	8,633	Moniteau.....	14,346	11,375	Sullivan.....	16,569	11,907
Dallas.....	9,263	8,333	Monroe.....	19,071	17,149	Taney.....	5,599	4,407
Daviess.....	19,145	14,410	Montgomery.....	16,249	10,405	Texas.....	12,206	9,613
De Kalb.....	13,334	9,353	Morgan.....	10,132	8,434	Vernon.....	19,369	11,247
Dent.....	10,646	6,357	New Madrid.....	7,694	6,357	Warren.....	10,806	9,673
Douglas.....	7,753	3,915	Newton.....	18,947	12,321	Washington.....	12,896	11,719
Dunklin.....	9,604	5,952	Nodaway.....	23,544	14,751	Wayne.....	9,096	6,068
Franklin.....	26,534	30,093	Oregon.....	5,791	3,287	Webster.....	12,175	10,434
Gasconade.....	11,153	10,093	Osage.....	11,824	10,793	Worth.....	3,203	5,004
Gentry.....	17,176	11,607	Ozark.....	5,618	3,363	Wright.....	9,712	5,654
Greene.....	23,801	21,549						
The State.....							2,163,380	1,721,295

MONROE DOCTRINE. (See PANAMA CANAL.)

MORAVIANS. The report of the Provincial Elders' Conference to the General Synod of the Northern (American) Province, made in May, 1881, stated that there were 65 ministers in actual service in the province, of whom 57 had pastoral charges, and 8 were filling other positions. Twenty-nine regular churches

* In 1876 organized as a separate municipality.

were entitled to representation in the Provincial Synod. The total number of communicants was 8,231, and the whole number of souls connected with the Church was 14,356. Adding the members in the Southern Province, which might now be regarded as united with the Northern Province, the members in the whole American district of the Moravian Church were 9,561 communicants and 16,491 souls.

The permanent *Church Extension Fund* amounted, including cash and unpaid pledges, to \$16,700, or \$3,944 more than in 1878.

The *Board of Home Missions* represented in its report to the Synod that the work under its care was embarrassed from an insufficiency of funds. The amount raised by the churches of the province had been at no time, since the previous meeting of the Synod, sufficient to cover the grants made to the home missionaries, not even after the grants had been reduced ten per cent, and the treasury was now in debt. The twenty-nine home missions comprised together a membership of 1,784 communicants and 3,347 souls; while eleven of them were free from debt, the other eighteen owed in all \$32,318, and the total value of their property was about \$91,800.

The *Theological Seminary* graduated seven students in 1879 and 1880, and had four students in its theological class, and twenty-three students in all its classes.

The receipts, mostly from interest and dividends, of the Missionary Society, the *Society for Propagation of the Gospel among the Heathen*, were reported, at the anniversary of the society, August 31st, to have been, for the year, \$12,508. The Indian Mission at New Fairfield, Canada, was served by one missionary, with a lay assistant and a teacher. Its expenses were paid, in large part, from the proceeds of a farm attached to it. The mission, also to the Indians, at New Westfield, Kansas, was not in so prosperous a condition. The contributions of the churches for foreign missions during the past three years were stated in the report of the Unity's Elders' Conference to have been \$10,362, a larger amount than had ever before been raised in the province during the same period of time.

The *Provincial Synod* of the Northern Province met at Bethlehem, Pennsylvania, May 18th. The meeting was a special one, called to consider the financial condition of the province, which the Provincial Elders' Conference represented as being exceedingly bad, with a large amount of the assets unproductive and the income falling below the expenditure by between four and five thousand dollars every year. The existence of this condition was explained by showing that some of the enterprises in which the Synod had embarked had proved unfortunate. The attention of the Synod was given chiefly to the consideration of measures of retrenchment, and of the means by which its financial condition could be improved.

A series of resolutions, defining the relations of the Synod to the Church at large, was adopted. The resolutions declare, in effect, that the Synod recognizes that it is only as an integral part of the Brethren's Unity that the American Province has any right to present separate existence among the churches of the United States; that it considers itself "firmly held by the bond of doctrine, ritual, discipline,

constitution, the work of education, home, foreign, and Bohemian missions, which unite the several provinces of our Church in a unity of brethren"; that the interests of all the parts of the Synod's province are one and the same, and indivisible; and that the Synod disapproves of all appeals to sectional feeling or assumed sectional interests, "and, further, of all threats, open or implied, as contrary to the spirit of the Brethren's Unity." Two delegates were present from the Southern Province, to present a plan for the union of the two synods, which had been agreed to by the synod of that province. The plan, providing for the union of the two provinces upon a footing of corporate equality, under the operation of which the Southern Province is to be constituted the Wachovia District, was adopted unanimously on three different votes, taken on three successive days. By its provisions, the Southern congregations will send their full quota of delegates to the next meeting of the Synod, in 1884, which is then to be constituted the first regular United Synod of the American Province. An Advisory Board of Laymen was constituted, to consist of an equal number of members with the Provincial Elders' Conference, and to act with that body as a joint board for the management and control of all the financial affairs of the province not otherwise specially provided for. The rule prohibiting the organization of new congregations by division or colonization from other congregations, without the express sanction of the provincial synod having been previously obtained, was repealed. A rule was adopted prohibiting the consecration of new church buildings till all of the building expenses shall have been provided for. The right of any congregation to lay representation in provincial synods was declared to be contingent upon its providing for an actual and adequate salary of its minister, and for the necessities of its church establishment, "without any fixed or regular aid from the general funds of the Church, during the interval between the previous synod and the synod about to convene," except in the case of the first application of the congregations for representation, which was left to be accorded by special act of the Synod. The Synod further ordered "that no home-mission church which counts on aid from the province shall build a church or a chapel without the express sanction of the Church Extension Board"; that a plan for the building and estimates of the cost should be laid before the board for approval; and that it should have authority to reject any plan that should be found unnecessarily expensive.

The reports of the *British Province*, in which the Irish churches are included, show that in 39 congregations the number of "souls" in 1880 was 5,706, against 5,423 in 1870, and the number of communicants was 3,302 in 1880, against 3,236 in 1870.

MORGAN, LEWIS HENRY, born near Aurora, New York, November 21, 1818; died in Rochester, New York, December 17, 1881. He graduated at Union College in 1840 and studied law until 1844. About that time he joined a secret society known as the "Grand Order of the Iroquois," and this had immense influence on his future career. The organization was modeled after the pattern of the Indian tribes, and, to become better acquainted with their social polity, young Morgan went among the Indians of his State, and permitted himself to be adopted by a tribe of Senecas. The Grand Order of the Iroquois flourished for a long time. The ceremonies were very picturesque and attractive, being conducted in the woods by night, and illuminated by immense camp-fires. The sachems, dressed in the Indian costume, with plumes of eagle-feathers and beautiful moccasins, partook with great enjoyment in the wild sports. But Mr. Morgan's business claims finally obliged him to abandon the society, and his departure caused the decay of the order. He published from his ample store of material a volume of great interest, called "The League of the Iroquois," in which he explained the organization and government of their wonderful federation. Their daily life, their superstitions, customs, and traditions were ably treated of, and this work gives the first scientific account of an Indian tribe ever published. It appeared in 1851.

The field of research he had entered was so vast, and the study so fascinating, that Mr. Morgan devoted all his spare time to it. In 1858 he went to Marquette and found an encampment of Ojibway Indians; he discovered, with much surprise, that while the language was essentially different, the organization and system of government in this tribe were precisely the same as those of the Iroquois. It naturally occurred to him that the similarity of characteristics in tribal governments might extend further, and he determined to pursue his investigations among other Indians. With this object in view, he issued schedules of inquiry for circulation among persons conversant with Indian life, and distributed them far and wide. The Smithsonian Institution rendered him much assistance, as did also General Cass, who was at that time Secretary of State. The returns came in so slowly that, to expedite matters, he

went through Kansas and Nebraska, to the Hudson Bay Territory and Lake Winnipeg, to Fort Benton and the Rocky Mountains. From the tribes of these sections he gleaned an amazing amount of information, to which were added the returns from his schedules, which began to pour in from all quarters. Not only was the kinship of the Indians investigated, but that of a large portion of mankind.

The Smithsonian Institution published the result as one of its "Contributions to Knowledge," under the title of "Systems of Consanguinity and Affinity of the Human Family." It is a quarto volume of 600 pages, and a wonder of patient research. The kindred systems of eighty tribes of North American Indians, together with those of a great number of the principal nations and tribes of the Old World and the islands of the sea, are fully recorded in its pages. During the earlier years of his labors in this great undertaking, Mr. Morgan carried on an extensive law practice, and was engaged upon a railroad enterprise in Michigan. On the shores of Lake Superior he became absorbed in the study of the beaver, and in 1868 he published "The American Beaver and his Works." His researches were extended to many subjects not comprised in the volume published by the Smithsonian Institution. He contributed a number of articles to the "North American Review," the first of which was printed in 1869, and entitled "The Seven Cities of Cibola." He came to the qualified conclusion that the ruins on the Chaco, in New Mexico, represent what remains of the so-called cities described by the ancient Spanish travelers. In 1871 he published what he considered to be the great work of his life, under the title "Ancient Society." It is divided into four parts, as follows: Part I, "Growth of Intelligence through Inventions and Discoveries"; Part II, "Growth of the Idea of Government"; Part III, "Growth of the Idea of Family"; Part IV, "Growth of the Idea of Property." Mr. Morgan presided over the last meeting of the American Association for the Advancement of Science, and his last work is the "House-Life and Architecture of the North American Indians." He was a member of the New York Assembly in 1861, and of the Senate in 1868. Upon the subjects treated of in his publications he was considered an authority in this country and abroad.

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NATURALIZATION IN THE UNITED STATES: ITS VALIDITY. An important question of naturalization was raised during the year, and left pending at its close, by Secretary Blaine's protest against the decision given in the Buzzi case by Count Lewenhaupt, acting as umpire, under the agreement between Spain and the United States, for the arbitra-

tion of claims of citizens of the United States for property seized by the Spanish authorities during the Cuban rebellion. Buzzi claimed to be a naturalized citizen of the United States, and presented his naturalization certificate to the commission. The umpire decided that the certificate was not valid, and hence that Buzzi was not entitled to appear before the commis-

sion as an American citizen. Mr. Blaine took the ground that a certificate of naturalization was conclusive evidence of citizenship. To get a clear understanding of the issue thus raised, it is necessary to give some facts concerning the arbitration agreement, and the diplomatic correspondence which preceded it.

The commission was created in 1871, "for the settlement of the claims of citizens of the United States, or of their heirs, against the Government of Spain, for wrongs and injuries committed against their persons and property by the authorities of Spain in the Island of Cuba, or within the maritime jurisdiction thereof, since the commencement of the present insurrection." One of the points most discussed in the diplomatic correspondence that preceded the agreement related to Cubans claiming to be naturalized citizens of the United States. Spain did not deny that a Spanish subject who had been duly naturalized in the United States and had become a citizen of this country in good faith, would be entitled to recognition as an American citizen. But it alleged that notorious frauds had been practiced by Cubans in getting naturalized for no other purpose than, while living and carrying on business in Cuba, to escape the duties and penalties of Spanish subjects under the cloak of American citizenship. It asserted that in many cases naturalization papers, though regular on their face, had been obtained fraudulently or without due compliance with the American laws. On this point Mr. Sagasta, the Spanish Minister of State, in a note, dated September 12, 1870, to Mr. Sickles, the American Minister at Madrid, said: "The good faith of the United States Government has been imposed upon and made use of by worthless men, whose only object is to create international complications and conflicts. The data and official documents of the Spanish Government enable it to make a classification of the greater part of these claimants, reducing them to three classes, namely: first, claimants who have never possessed a right to foreign nationality; second, individuals who enjoy its benefits, but whose property has never been embargoed; and, third, persons to whom, in consideration of their being foreigners, their embargoed estates have been restored on the least evidence. Moreover, the Government of the United States can not be ignorant of the fact that the greater portion of the natives of Cuba, who have given allegiance to the American flag, have done so with the studied intention of making use of it at some future day as a shield for their criminal designs. Many cases might be cited of individuals who have lived in the Island of Cuba as Spanish citizens, and did not remember their American citizenship until affairs went against them. These abuses caused the issue of the important instructions concerning the rights of citizenship communicated by the Department of State of the United States, on the 3d of May, 1869, to their consul-general

at Havana, it being noticeable that these instructions were given at the request of the said officer, who continually found himself embarrassed by the reclamations of Cubans naturalized as Americans, who had returned to Havana and resided there permanently without disclosing their change of nationality; some of them having accepted employment as officers which Spanish subjects are alone entitled to hold."

In reply to this, Mr. Sickles, on October 14, 1870, under instructions from Secretary Fish, wrote that "in regard to the first classification, that is to say, those 'claimants who have never acquired a foreign nationality,' the Government of the United States will not be found disposed to extend its protection to persons who have not the right to invoke it. It is to be presumed, until the presumption is overcome by proof, that aliens who have deliberately renounced, after an uninterrupted residence of five or more years within the territory of the Union, all allegiance to any other government, and have thereupon become citizens of the United States, are sincere in their solemnly-avowed purpose. If it shall be made to appear that any one of the claimants in whose behalf the Government of the United States intervenes is not a citizen thereof, or, having been naturalized in conformity with its laws, has by any act of his own forfeited his acquired nationality, or that he has voluntarily relinquished it, your Excellency may rest assured that the case of such claimant will be dismissed from the further consideration of the American Government. The Government of the United States, having satisfied itself that the parties in whose behalf reclamations have been addressed to the government of his Highness the Regent are entitled to claim the protection due to American citizens, awaits the production of such proofs as may be exhibited on the part of the Spanish Government to show that such protection is not rightfully solicited and granted."

Subsequently (November 18, 1870) Secretary Fish instructed Mr. Sickles that "the President contemplates that every claimant will be required to make good before the commission his injury and his right to indemnity. Naturalized citizens of the United States will, if insisted on by Spain, be required to show when and where they were naturalized, and it will be open to Spain to traverse this fact, or to show that from any of the causes named in my circular of March 14, 1869, the applicant has forfeited his acquired rights; and it will be for the commission to decide whether each applicant has established his claim." These views were communicated to the Spanish Minister of State by Mr. Sickles in his note of January 8, 1871.

In the light of this correspondence the arbitration agreement was made. It created a commission to consist of two arbitrators, one chosen by the United States and the other by

Spain. The arbitrators were to select an umpire. Article V of the agreement stipulated that "no judgment of a Spanish tribunal disallowing the affirmation of a party that he is a citizen of the United States shall prevent the arbitrators from hearing a reclamation presented in behalf of said party by the United States Government. Nevertheless, in any case heard by the arbitrators the Spanish Government may traverse the allegation of American citizenship, and thereupon competent and sufficient proof thereof will be required. The commission having recognized the quality of American citizens in the claimants, they will acquire the rights accorded to them by the present stipulations as such citizens." The agreement concludes with the declaration that "the two governments will accept the awards made in the several cases submitted to the said arbitration as final and conclusive, and will give full effect to the same in good faith and as soon as possible."

In the case of Piedro D. Buzzi, who presented a claim of five hundred thousand dollars, the arbitrators were unable to agree as to his right to appear before the commission as an American citizen. Buzzi was a Cuban who obtained a naturalization certificate in Baltimore in 1869. The law requires the applicant for citizenship to make affidavit that he has resided five years in the United States immediately preceding the application. It was proved before the commission that Buzzi had lived in the United States only six months of the five years preceding the date of his naturalization. The remaining four and a half years he had lived in Cuba. The counsel for Spain claimed that Buzzi's certificate had been fraudulently obtained, and that Buzzi was not entitled to appear before the commission as an American citizen. The counsel for the United States did not deny the facts on which the allegation of fraud was based, but argued that the certificate must be accepted as conclusive evidence of citizenship. The question was referred to the umpire, Count Lewenhaupt, the Swedish Minister at Washington. After reviewing the parts of the diplomatic correspondence preceding the arbitration agreement, which are given above, and citing Article V of the agreement, Count Lewenhaupt says in his decision: "In the opinion of the umpire this correspondence shows that by neither party was the convention intended for the benefit of other in the United States naturalized Spaniards than those who have been naturalized in good faith, and, conformably to the proposal of Mr. Sickles, it was agreed that naturalization, after an uninterrupted residence of five or more years, should be considered as a conclusive test. The umpire is of opinion that Article V of the agreement, interpreted in the light of the correspondence, and only with reference to the present case, stipulates that the Spanish Government may traverse the allegation that the claimant has acquired American citizenship in

good faith, and thereupon proof satisfactory to the commission will be required of an uninterrupted residence in the United States during the five years immediately preceding the naturalization." He accordingly decided that Buzzi's naturalization certificate had been fraudulently obtained, and therefore gave him no right to appear before the commission.

When this decision was rendered, Mr. Blaine directed the counsel for the United States to move for a rehearing of the case, but in a note dated November 30, 1881, a short time before his retirement from the State Department, Mr. Blaine withdrew that direction and instructed the counsel that "this Government can not accept such judgment [the decision of Count Lewenhaupt] as within the competence of the umpire to render, and that it can not submit the cases remaining unsettled on the docket to the application of principles distinctly repudiated by the agreement itself." Mr. Blaine's protest was based on the ground that the commission had no right to go behind a naturalization certificate, but must accept it as conclusive evidence of citizenship. In support of this view, he cited three decisions by two former umpires under the agreement, and claimed that the doctrine affirmed by them was binding upon every subsequent umpire. One of these decisions was that rendered in the Delgado case by M. Bartholdi, Minister from France. In his opinion, M. Bartholdi held: "That the claimant [Delgado] has been naturalized an American citizen according to the laws of the United States; that the judge who ordered him to be admitted a citizen of the United States was, as it has been decided in many cases by the Supreme Court of the United States, the competent authority to decide if the claimant had sufficiently complied with the law, which prescribed a continued residence of five years in the United States before having a right to obtain the naturalization."

In the subsequent case of Dominguez, the umpire, Baron Blanc, the Italian Minister, said: "Finally, neither the authorities on public law nor the agreements between Spain and the United States, furnish any unquestioned and controlling definition of what constitutes, in fact, a legal residence with presumable *animus manendi*, and when absence intervenes with presumable *animus revertendi*, such as would justify or empower the umpire to overrule by force of treaties, or of the law of nations, the construction placed by a court of competent jurisdiction upon a municipal law, as to the required residence in the United States for the next continued term of five years preceding the admission to American citizenship. Therefore the construction thus given, however broad it may be deemed, must be followed so long as it is unimpeached or unreversed by an American tribunal of superior jurisdiction. The tribunals of the United States are the sole interpreters of the laws of the country, and it is not the privilege of the umpire to review

their declarations as to the requirements of these laws."

In the case of Portuondo, the same umpire, Baron Blanc, decided: "That as to the traversed allegation of American citizenship of the deceased, competent and sufficient proof thereof, as required by the agreement of February 12, 1871, is given by his certificate of naturalization, such certificate not being proved or charged to have been procured by fraud or issued in violation of public law, treaties, or natural justice. Such grounds of impeachment upon which any certificate of naturalization may be declared altogether void not being found in this case, the umpire called upon to resolve such conflict about the allegiance of the deceased must, following previous adjudications by umpires of this commission and in the absence of any treaty between Spain and the United States restricting the power of the United States to grant naturalization, in accordance with municipal law, as interpreted by the municipal courts, give full force to the naturalization of the deceased even against Spain."

In his note of November 30, 1881, to the counsel of the United States before the commission, Mr. Blaine, after citing the decisions of the umpire in the above cases, says:

This Government had the right to consider these decisions as final and conclusive of the meaning of the agreement under them. From the date of the opening of the commission, by a succession of umpires, one hundred and seven cases having been tried and decided, forty cases remain on the docket. If the decisions of former umpires are to be reversed, then the forty cases are to be judged upon entirely different principles from the preceding cases. In fact, the one hundred and seven cases will have been decided under an agreement meaning an entirely different and even contradictory thing. Two claimants presenting certificates of naturalization of the same date, issued from the same court, would be the one received and the other rejected, not on any fixed principle, but according as the number of his claim on the docket brought his case under the consideration of one or the other umpire.

What effects should be given to the certificate of naturalization as it is understood by the contracting parties and declared in the stipulations of the agreement, and what power the commission itself may have to extend or limit this effect by construction, I will not now discuss; but it is evident that if the commission has or has not assumed the power to decide this question, which is one not of fact, but of construction of the intent of the argument once decided, it must be considered as settled for ever; for it is obvious that no settlement can be reached just to the claimant where the rule of construction varies with every change which may occur in the person of the umpire. And this Government must insist that all claims shall be tried by the same rules and under the same construction of the agreement between Spain and the United States. The commission is not a proper tribunal to which should be submitted the argument of the United States in this regard. Whether this course is justified by the circumstances, or whether our interpretation of the agreement be the correct one, are questions, upon the failure of the commission, to be discussed and decided by the two governments themselves. For the present it is sufficient that I refuse to recognize the power of the commission to denaturalize an American citizen. When a court of competent jurisdiction, administering the law of the land,

issued its regular certificate of naturalization to Piedro Buzzi, he was made a citizen of the United States, and no power resides in the executive department of this Government to reverse or review that judgment, and what the power of the Executive can not do in itself it can not delegate to a commission, which is the mere creation of the Executive agreement. . . .

Therefore, as this Government perceives that, in the following out practically of the recent decision of Count Lewenhaupt, serious damage would be done the United States, by setting aside of the most important safeguards established in our behalf by the agreement of February, 1871, as it regards the decision of Count Lewenhaupt, entirely beyond the scope of the authority given by the convention, as it is bound to respect and maintain the decision made, not by one, but by a series of former umpires, and which it has regarded final and conclusive, and as it is pledged to insist upon the application of the same law to all the claimants who may come before the commission, you are instructed not to consent to have any case referred to the umpire wherein the question may be involved of the effect due to a certificate of naturalization issued by a competent court, and in which it is not denied that the claimant presenting it is the person to whom it was originally issued.

I feel myself the more constrained to give you this instruction, as the commission is not the creation of a treaty constituting it an international court, but simply an arbitration agreed upon between one of my predecessors, as Secretary of State, and the Spanish Secretary of Foreign Affairs. To these commissioners no larger powers could be given than those possessed by the secretaries that appointed them, and I am thus personally charged with the duty of seeing that the terms of the arbitration are duly executed, and that no detriment shall come to the interests of the United States by the exercise of a power which I do not possess, and could not therefore delegate.

From the above it will be seen that Secretary Blaine based his protest mainly on the ground that the decision of Count Lewenhaupt was contrary to the principles affirmed by his two predecessors, M. Bartholdi and Baron Blanc. In the popular discussion of the subject which followed the protest, those who did not agree with the views advanced by the Secretary of State contended that his conclusion was not sustained by the authorities which he cited. The question presented in the Buzzi case was whether the commission could question a certificate of naturalization in case of fraud. The umpire found that Buzzi had lived only six months in the United States when he made affidavit of five years' residence, and decided that he had not been naturalized in good faith. In the Delgado case it appeared that the claimant had been absent from the territory of the United States only once or twice during the five years preceding his naturalization. The umpire, M. Bartholdi, found that "there is no evidence nor charge of the naturalization having been obtained by fraud," and held that, as Delgado's certificate had been obtained in good faith, its legal validity was a matter of local law, determined by the court which admitted him to citizenship. On this point the umpire in the Buzzi case seems to have entirely agreed with M. Bartholdi. While holding that the commission had a right to go behind a naturalization certificate in case of fraud, Count Lewenhaupt says, in the Buzzi case:

The umpire has been unable to find any indication in either the agreement or in the correspondence that, as contended by Spain, the commission ought to examine whether the requirements of the American law of naturalization have been fulfilled. In such case the umpire would have to examine, in the present case, not only the question of five years' residence, but also whether the declaration of intention made in 1850 was legal or not; whether it could be replaced by the declaration of intention made by the claimant's father in 1824; whether the claimant resided one year in Maryland, where he was naturalized; whether he conducted himself as a man of good moral character; whether he was attached to the principles of the Constitution, etc. It is not probable that, when the question was to determine naturalization in good faith as against Spain, either party intended an examination of these questions, because it seems entirely indifferent to Spain whether the claimant abjured his allegiance only once at the end of five years, or whether he made also a similar oath two years previously; whether, in case of five years' residence, he resided one year in Maryland, or the whole time in other parts of the United States.

In his opinion in the *Portuondo* case, Baron Blanc expressly concedes the authority of the commission to inquire into the validity of a naturalization certificate in case of fraud. He decided that sufficient proof of citizenship was given by the naturalization certificate of *Portuondo*, "such certificate not being proved or charged to have been procured by fraud, or issued in violation of public law, treaties, or natural justice." He then added that "such grounds of impeachment, upon which any certificate of naturalization may be declared void, are not found in this case." This opinion was given by Baron Blanc, after the arbitrator on the part of Spain, the Marquis de Potestad-Fornari, had filed a protest against the views expressed by Baron Blanc, in deciding the *Dominguez* case, as above quoted.

The position taken by Secretary Blaine with reference to the powers and duties of the commission, in the matter of naturalization certificates, is diametrically opposed to that taken by his immediate predecessor, Mr. Evarts, who assured the Spanish Minister in Washington, in an official communication, dated March 4, 1880, that the commission had full power to pass upon all questions of law and fact arising in the cases submitted, and that it was "beyond the competence of either Government to interfere with, direct, or obstruct its deliberations." He expressly conceded that it might inquire into the validity of any naturalization certificate, and that the judgment of the umpire, whatever it might be, was final and not open to review. His letter was written to Señor Don Felipe Mendez de Vigo, who, acting under instructions from the Spanish Government, had brought to the attention of the State Department the protest made by the Marquis de Potestad-Fornari, against the principles affirmed by Baron Blanc in the *Dominguez* case. The views then held by the State Department are set forth in the following passages of Mr. Evarts's letter:

I have no difficulty in cordially agreeing with you in the principle which you deduce from the conven-

tion of 1871 as the one which inspired both governments in their agreement to the terms of that instrument, and to which you give expression in your note in words which I willingly adopt: "From the terms of the convention of 1871, it is clearly deduced that the Government of the United States and that of Spain, being both actuated by the strictest sentiment of justice, knowing, perhaps, that the parties claiming to be American citizens had not all the necessary means of defense before the Cuban courts, and that it was possible that abuses had existed in the issuance of certificates of naturalization presented by them, thought proper in appointing the Spanish-American Commission of Arbitration to invest it with certain powers which in certain cases place it above and beyond the reach of decisions pronounced by the local courts of both nations."

It is precisely in this spirit that the Government of the United States has interpreted, understood, and accepted the functions and powers of the commission created by the agreement of the two governments, and organized in accordance with and in pursuance of the convention of 1871. This Government has from the first considered, as it now holds and feels itself bound to maintain, that the commission thus established is an independent judicial tribunal, possessed of all the powers and endowed with all the properties which should distinguish a court of high international jurisdiction, alike competent in the jurisdiction conferred upon it to bring under judgment the decisions of the local courts of both nations and beyond the competence of either government to interfere with, direct, or obstruct its deliberations. Viewing the commission in this light, the Government of the United States, as one of the high contracting parties to the convention, and also as one of the parties to the contention submitted for the determination of the commission, has felt itself bound, in accordance with the stipulations of the seventh article of the agreement, to "accept the awards made in the several cases submitted to the said arbitration as final and conclusive." An examination of the proceedings of the commission, which I have requested the advocate of the United States to make, shows that in all cases submitted for its determination thus far the American claimants have been required to establish their United States citizenship by competent and sufficient proofs, and that in no case has the right been denied to Spain to "traverse" the allegation of such citizenship, and to support such denial on the part of Spain by admissible evidence going to show that the proofs, adduced in maintenance of the claimants' demand to be considered citizens of the United States, were on their face inadmissible, or that they were unworthy of credit because of a taint of fraud in the proceedings of naturalization from which the documents emanated, or that taken together such proofs were insufficient to establish the demand of American citizenship put forth by this Government on behalf of the claimant. All this it has been competent to the representative of Spain to advance before the tribunal on behalf of his government as defense and objection to each claim presented and submitted to the arbitration of the commission.

In the proceedings with regard to the claim of Mr. Fernando Dominguez, from which the present contention immediately arises, and in regard to which, in the estimation of the Marquis de Potestad-Fornari, the decision of the umpire furnished sufficient grounds to the arbitrator for Spain to refuse his concurrence with the American arbitrator in a submission to the umpire of any future case involving a controverted question of American naturalization upon which the arbitrators should disagree, this principle appears to have been recognized by the commission in the most liberal sense, and the inquiry as to the question of the citizenship of the claimant was apparently pursued to the utmost scope and limit of judicial investigation.

It was the intention of the Government of the United States, and I do not doubt that it was also the intention of the Government of his Catholic Majesty,

to eliminate from the field of diplomatic discussion a class of cases which could hardly be diplomatically handled in detail with satisfaction to either party, and to create a tribunal which should fairly and impartially judge them without question or appeal in the interest of universal equity, and especially in that of the traditional good understanding which has so long united both governments. The President charges me to express the hope that nothing may be suffered to interrupt the regular progress of the work of the commission; and that, relying upon the intelligence and the impartiality of the arbitrators, the Governments of Spain and of the United States may accept and carry into effect the decisions rendered in all cases as they arise.

It becomes, in this view of the authority of the tribunal to fix not only the general scope of evidence and argument it will entertain in the discussion both of the merits of each claim and of the claimant's American citizenship, but to pass as well upon every offer of evidence bearing upon either issue that may be made before it, entirely unnecessary, and therefore entirely unsuitable, for me to enter upon any discussion of either the jurisprudence that should govern the decisions of the tribunal or of the reach of the jurisdiction accorded by the convention of 1871. All these topics are to be judicially treated and judicially decided by the tribunal, and the two governments are to accept the "awards made in the several cases submitted to the said arbitration as final and conclusive, and will give full effect to the same," as expressed in the seventh article of the convention.

This obligation upon the two governments is not at all dependent upon the methods, the rules, the reasons, or the law which have produced the awards, being approved by the governments, or the awards themselves being satisfactory to the governments. Any such pretension, if tolerated, would subvert the convention and reserve for direct debate between the governments contentions which have been deliberately remitted to judicial treatment and decision.

The interruption of the due judicial course provided by the convention in all cases which should be submitted to the arbitrators, and in which there should arise "questions upon which they should be unable to agree," which has been produced by the action of the Spanish arbitrator, is, as it seems to me, justly complained of by the claimants whose litigations have thus been delayed. There would seem to be no doubt that, upon the necessary reason of the situation, as well as by the explicit provision of the convention, the only condition to the attaching of the umpire's jurisdiction "to decide" any question is the inability of the arbitrators to agree upon that question. The interposition, therefore, of any obstruction by either arbitrator to the umpire's disposition of any question upon which the two arbitrators disagree seems a frustration of the equal, impartial, comprehensive, and efficient provision made for the umpirage to produce, in every possible case, an award which the disagreement of the arbitrators had disabled them from making.

This Government has every desire that the labors of the commission should be brought to a conclusion as rapidly as is consistent with an adequate consideration by the tribunal of the cases that may be submitted to it. It sees no reason to think that the purposes of the two governments have not been circumspectly stated and their execution adequately secured by the convention of 1871; and, with every wish to meet any suggestion which may be made to it by the Spanish Government tending to a better or more acceptable observance of the terms or the spirit of that convention, it can not look with any complacency upon any diminution of the independent judicial authority of the tribunal constituted by it, or any interruption of its regular administration of the jurisdiction assigned to it.

I sincerely hope that the views I have had the honor to submit to you may satisfy you that the contention

on the citizenship of the claimants, dependent upon naturalization, is as fully a question of judicial determination for the tribunal in respect to the admissibility of evidence, its relevancy and its weight, and in respect to the rules of jurisprudence by which it is to be determined, as any other question in controversy in the cases. This contention was so dealt with by the arbitrators and by the umpire in the case of Dominguez, and doubtless in all other cases heretofore decided; and it will be so dealt with, I must assume, in all cases before the tribunal which involve that issue.

The conclusions which I have formed upon this subject result in the expectation that the rights secured by the convention to claimants whose cases have been laid before the tribunal by this Government will no longer be delayed or interrupted in their presentation by the obstruction interposed by the Spanish arbitrator to their due course of consideration and determination as prescribed by the convention.

A law of the United States makes it a criminal offense, punishable by both fine and imprisonment, for any person knowingly to use, in any way or for any purpose, a certificate of naturalization by fraud or false evidence. Any offender is liable to indictment, and on the trial it would seem that the court has express authority to go behind the certificate and to make the fullest inquiries into the facts and merits of the matter. This law is found in section 5428 of the Revised Statutes of the United States, which reads as follows:

Every person who knowingly uses any certificate of naturalization heretofore granted by any court, or hereafter granted, which has been or may be procured through fraud or by false evidence, or has been or may be issued by the clerk or any other officer of the court, without any appearance and hearing of the applicant in court, and without lawful authority; and every person who falsely represents himself to be a citizen of the United States, without having been duly admitted to citizenship, for any fraudulent purpose whatever, shall be punishable by a fine of not more than one thousand dollars, or be imprisoned not more than two years, or both.

It would seem that any person knowingly using a fraudulent naturalization certificate before an international arbitration commission holding its sessions in this country would be liable to the penalties of the above statute.

In his message of 1875, President Grant said: "On many occasions it has been brought to the knowledge of the Government that certificates of naturalization are held and protection or interference claimed by parties who admit that not only they were not within the United States at the time of the pretended naturalization, but that they have never resided in the United States. In others the certificate and record of the court show on their face that the person claiming to be naturalized had not resided the required time in the United States. In others it is admitted upon examination that the requirements of law have not been complied with. In some cases, even, such certificates have been matter of purchase. These are not isolated cases arising at rare intervals, but of common occurrence, and which are reported from all quarters of the globe."

NAVY OF THE UNITED STATES. This important arm of the national service excited public attention to a large extent in 1881. For several years the navy had been much neglected. It had become weak and inefficient. It was poorly and meanly supplied; and it was held to be quite unworthy of a great nation. The Secretary, in his annual report, urged warmly its claims upon the gratitude of the country, and pleaded earnestly for prompt and efficient action in its behalf. He is clearly of opinion that, "while the navy should not be large, it should at all times afford a nucleus for its enlargement upon an emergency. Its power of prompt and extended expansion should be established." And he further says: "Upon the whole, whether it be as a means of self-protection to the long line of cities and harbors upon our coasts, or to guard our commerce on the high seas, or to insure our citizens sojourning in foreign lands and their property and persons against outrage; or to take and keep our proper place among nations; or to maintain the sentiment of patriotism connected with our navy, and with the memory of its departed heroes; or to reap the advantages of the researches and labors of its officers in the further progress of advanced science, it becomes the duty of Congress to see to it that the navy of the United States should not be left to perish through inanition, but should be restored to a condition of usefulness, in which it may, upon occasion, be so expanded as to become the ready means of protection at home, or of active and aggressive warfare in the ports and waters of an enemy."

In order to be able to come before the national legislature with some definite, matured plans and recommendations for increasing the efficiency of the navy, a naval advisory board, consisting of able and experienced officers, was appointed early in the year. It prosecuted its work and reported toward the close of 1881. It strongly recommends proper and effective vessels, combining sufficient speed, facility of manœuvre, and a power of resistance deemed abundantly available for practical purposes. These vessels thus recommended are adapted to the depth of water in our ports and harbors; and, while requiring no fine work, extravagant and useless, it is believed they will adequately supply the pressing wants of this arm of defense. The number and types of vessels that will be available for service in the navy at the expiration of eight years, in case the programme set forth by the advisory board be adopted, are: twenty-one ironclads ("such vessels," they emphatically declare, "*are absolutely needed for the defense of the country in time of war*"), seventy unarmored cruisers, five rams, five torpedo gunboats, twenty torpedo-boats. Cost of the vessels recommended to be built, nearly \$30,000,000.

At this date there are one hundred and forty vessels on the navy list, twenty-five of which are mere tugs, with a very large number of

others entirely useless, and which could not, without a great expenditure of money, be made fit for service. There are, it appears, four double-turreted monitors belonging to the Government and remaining unfinished, one at Philadelphia, one at Wilmington, Delaware, one at Chester, Pennsylvania, and one at Mare Island, California. It is not clear what is best to be done with these, whether to continue work on them or to abandon them. It is recommended that they be removed to a navy-yard, be carefully examined, and, if thought advisable, finished in a manner to confer some benefit on the Government, in spite of their irregularly designed plans. At present these monitors are only bad copies of old models built in an emergency, worthless for the defense of the coasts, and entailing considerable expense for their preservation. The Government can not afford to throw away these vessels, after spending so much money on them, without first finding out whether they may be converted into useful ships.

The United States maintains squadrons, of some five or six vessels each, on the North Atlantic Station, the South Atlantic Station, the European Station, the Pacific Station, and the Atlantic Station. Besides these there is a training-practice squadron, consisting of five vessels; seven ships are employed on special service, and one is used by the State of New York as a marine school-ship.

During 1881 a portion of the navy was occupied in works of utility to the country at large, as well as in the interests of science. The longitudes of Yokohama, Nagasaki, Vladivostok, Shanghai, Amoy, and Hong-Kong have been established by means of the electric telegraph, and it is expected that the electric light will be found of great value for various purposes in the naval service. Two United States steamers have been detailed for the purpose of surveying the waters and shoals of the Gulf of Samana, in the Island of San Domingo, which, from its geographical position and extent, seems destined to become of great importance commercially, and for similar service on the Spanish Main. It is recommended that systematic surveys be made of parts of the West Indies, the coasts of Mexico and Central America, and of the Marshall and Caroline groups of islands. The Naval Observatory reports astronomical work performed during the year, consisting of observations of stars, satellites, and comets; their reduction and partial publication; the discussion and publication of the result of the transit-of-Venus expeditions of 1874; the reduction of the photographic observations of the transit of Mercury of 1878; and the prosecution of experiments on astronomical photography. In this connection, mention is made of the selection and purchase of a site for a new Naval Observatory on Georgetown Heights. It is estimated that the cost of the new structure will be about \$600,000. Under authorization of Congress, the Secretary of the Navy had a

vessel of suitable size and equipments fitted up to search for the steamer *Jeannette*, of the Arctic Exploring Expedition. A Government steamer was also sent to aid in the same benevolent undertaking, for the particulars of which see "GEOGRAPHICAL EXPLORATIONS." The first vessel remains over, to continue the search in the summer of 1882. The United States steamer, being wholly unsuccessful in the main object of her cruise, returned to New York in November.

The Bureau of Ordnance reports that, besides its usual work of fitting batteries of ships for sea, and keeping up the stock of manufactured articles for current service, it has been engaged in improving the ballistic power of certain of the Parrott muzzle-loading rifles by converting them to breech-loaders with enlarged powder-chambers. An earnest remonstrance is made on the subject of modern rifled breech-loading cannon, a matter which has frequently been brought to the attention of Congress. "Our vessels of war are obliged to appear to great disadvantage beside those of ostensibly equal force belonging to other nations, and our battery power is so low as to justify the gravest apprehension in case we should be called upon to meet foreign ships of equal size in battle." As there seems to be an impression prevailing in some quarters that torpedoes alone would suffice for the defense of the coast against a hostile fleet, care is taken to dispel this impression, and it is affirmed positively that "torpedoes, either for defense or attack, must be covered or defended by the fire of powerful rifled guns, both afloat and ashore. The two destructive agents (artillery and torpedoes) supplement each other, and, as a rule, must be employed together."

The appropriations available for the current expenses of the year ending June 30, 1881, were \$15,035,752.45, to which should be added \$59,309 transferred from the navy pension fund to the Naval Asylum. There should also be added \$185,443.31, appropriated to cover deficiencies for 1881, making a total of \$15,280,504.76. There was also a balance on hand at the beginning of the year, under the appropriations for pay of the navy and pay of marine corps, of \$1,495,313.35. From this sum should be deducted \$673,183.46, amounts due from said appropriations to "general account of advances," and also \$3,565.68 carried to the surplus fund; also the sum of \$19,458.94 appropriated for charts of the Amazon and Madeira Rivers, etc., transferred from appropriations made for that year and carried to the account for indefinite appropriations. The net amount available for the year was \$16,020,301.03. The expenditures were \$14,450,789.86, leaving a balance of \$1,569,511.17. To this should be added unexpended balances in the hands of pay-officers, \$692,987.74, which shows that the net expenditures for the fiscal year were \$2,262,498.91 less than the amount applicable therefor. The amount of appropriations available for the fiscal year (ending June 30, 1882)

is \$14,874,269.55; also transferred from navy pension fund to the Naval Asylum, \$59,813, making a total of \$14,934,082.55. The number of navy invalids, navy widows, and others is 4,195; the amount paid for pensions is \$965,138.24.

The Naval Academy appears to be in excellent condition. It is regarded as a source of pride to the department, and of usefulness to the country. It is believed that the Academy is, in all respects, at this time superior to any other naval school in the world. This excellence arises from the system of instruction originally introduced at the first formation of the school, and since then perfected by such reforms and improvements in its curriculum and general management and discipline as have become necessary in the course of time. The interest and zeal which have been exhibited by the corps of officers and instructors in charge of the Academy are entitled to commendation. In this connection it may be noted that the training-ships for the purpose of training boys to become seamen have proved very effective, and, for the first time in our history, the naval apprentice system seems to be established on a sure foundation, from which the navy will soon reap material advantages. It is confidently believed that this trainingsquadron will maintain its present efficiency, and may be relied on in future to furnish a nucleus for seamen for the navy.

There are in the navy-yards large accumulations of property, consisting of the ancient hulls of vessels of war, launches and other ships' boats, old machinery and condemned stores and materials, and other effects, which have become unfitted for use in the navy.

The career of the celebrated United States frigate *Constitution*, commonly known as "Old Ironsides," so renowned in song and story, is ended at last. December 15, 1881, she was formally put out of commission at the Brooklyn Navy-Yard, her ensign being hauled down in the presence of Admiral Cooper and the other officers attached to the station. Since then the *Constitution* has been stripped of her spars and guns and has taken her place in what is called "Rotten Row," with the *Susquehanna* and *Ticonderoga*, and unless broken up will be allowed to fall gradually to pieces. Once before it was determined to put "Old Ironsides" out of commission, but the lines of one of our poets—

"Ay, tear her tattered ensign down!"—

saved the frigate, and prolonged her career for twoscore years. The keel of the *Constitution* was laid in Boston, Massachusetts, November, 1795, and she was launched in October, 1797. Her first cruise was made in the summer of 1798, and her first commander was Captain Samuel Nicholson. Her last voyage was made in November, 1881, and her last captain was Commander E. M. Shepard. In 1804 the *Constitution*, under Preble, silenced the land batter-

ies at Tripoli, and gained the freedom of three hundred American captives. During the second war with Great Britain—1812-'15—she made her famous record, beginning with her escape, while under the command of Commodore Isaac Hull, from a British squadron off Sandy Hook, in July, 1812. Under the same gallant officer, the victory over the *Guerriere* was gained on August 19th of the same year. December 18th, the British frigate *Java* was captured, and in the following year the sloop-of-war *Picton*, a privateer, and several English merchantmen were her spoils, while early in 1815 the frigate *Cyane* and the sloop-of-war *Levant* were made prizes. Since that war the *Constitution* has been rebuilt and several times repaired. Her flag has floated on every sea, and in a single cruise in the Pacific the old frigate sailed 52,379 miles. She has always been a singularly lucky ship, and in her long career of nearly a century her good fortune was ever remarkable. To enumerate her commanders would be to name nearly all the heroic names in our early naval annals. Preble, Rodgers, Chauncey, Hull, Decatur, Bainbridge, Porter, and Charles Stewart, are among the American commanders who won renown in her. Her last foreign service was a peaceful one—carrying American products to and from the Paris Exposition of 1878. Since her return from Europe, the *Constitution* has been used as a training-ship for boys.

NEBRASKA. The Sixteenth Legislature of this State convened at Lincoln, and began its biennial session of 1881 on the 4th of January, J. B. Dinsmore having been elected President *pro tempore* of the Senate, and H. H. Shedd Speaker of the House of Representatives. Both of these presiding officers belong, politically, to the Republican party; about three fourths of the whole legislative body of Nebraska consisting of Republican members. The vote for Speaker in the Lower House stood: Shedd, 74; J. Holman, his competitor, 8.

On the 5th of January the re-elected Governor, Albinus Nance, was duly inaugurated.

Among the first business of the session was the election of a United States Senator to occupy the seat of Mr. Paddock, whose term was to expire on the 3d of March ensuing. The competitors for that office were numerous, and each of them was supported by not a few members. At the end the choice was between Mr. Paddock for re-election, and Charles H. Van Wick, a comparatively new resident of Nebraska, formerly a citizen of the State of New York, and also one of her Representatives in the Lower House of Congress. By the ballot taken in either House on the 18th of January, Mr. Paddock received more votes than were given to any of his competitors, but no election was effected. The seventeenth ballot, taken at the convention of the 22d of January, decided the contest in favor of the new resident, the votes having been—Paddock 36, Van Wick 63, or nine more than the required majority.

The satisfactory condition of the State's finances, and her educational and material interests, was laid before the reader of the "Cyclopædia" in 1880. The progress which Nebraska has recently made, and her prospective further advance, were summed up by the Governor at the conclusion of his message in these words:

At the close of my first official term I review with satisfaction the progress of the State in the development of its varied resources. Railroads have been rapidly extended toward the frontier, affording additional transportation facilities for new settlements; an immense area of wild land has been brought into a state of cultivation; manufacturing interests are utilizing the water-power afforded by our rivers and smaller streams; enterprising capitalists are developing the coal-fields that are believed to be abundant within the borders of the State, and there are many reasons for anticipating greater prosperity in the not distant future.

The fact that the rate of taxation for general purposes, which the law of 1879 fixed at two mills on the dollar, was totally inadequate to meet the general expenses of the State government for the next fiscal term, led to the passage at this session of an act which fixed the general State tax at five mills on the dollar, and the sinking-fund tax at three fourths of one mill. The rate of the last-named tax for 1879 and 1880 was five eighths of one mill; the aggregate amounts of taxable property in Nebraska, as assessed in the said two years, having been \$75,359,798.87 and \$90,499,618 respectively.

The remarkable growth of the State in population during the last decade—from 122,993 in 1870 to 452,542 in 1880—entitles her to three Representatives in the Lower House of Congress instead of one, as heretofore. A bill to district the State was introduced in the Senate and passed, but was defeated in the Lower House on the last day of the session. Nebraska must thus elect all of her three Representatives in Congress from the State at large, until a future General Assembly divides her territory into districts, or hold a special session of the Legislature. A provision of the State Constitution required the Legislature at this session to re-district the State for representation in the General Assembly, and to determine the number of members that shall constitute each of its two Houses. An act was therefore passed apportioning the State into thirty-one senatorial and fifty-nine representative districts, and defining their respective limits. The act assigns one member to every senatorial district, except the seventh and sixteenth, which may elect two Senators each, and from one to eight members to every representative district, in proportion to its extent and population. In consequence of this apportionment, the members of the next Legislature will be numerically increased—in the Senate from 30 to 33, and in the House of Representatives from 84 to 98.

The State Constitution also authorizes the Legislature, "in and after the year 1880, to increase the number of judges of the district courts, and the judicial districts of the State."

The rapid increase of population, and the consequent accumulation of business in the district courts, seemed to make it necessary to exercise this power. Several bills in both Senate and House of Representatives were therefore introduced under different titles, but all purporting to increase the number of judicial districts, and provide judges and other officers for their courts; even one with the definite object of "dividing the State into six judicial districts" was presented; but no decisive action was taken on any of these bills.

In the absence of an organized militia, the Governor, as late as April, 1879, was not able to comply with a request made by the Sheriff of Adams County "for a company of troops for service at Hastings, to preserve peace and quiet during the Olive trial"; but a request for United States soldiers was made, and they were ordered by General Crook to perform that duty. Subsequently twelve companies of infantry, with one of light artillery, consisting of 598 officers and men, were fully uniformed at their own expense. Upon the occasion of the labor troubles at Omaha in May, 1880, four companies of this force rendered most valuable service. The Legislature has since passed an act "To establish a military code for the State of Nebraska." The act also organizes a body of State militia. Its main provisions are, that every male citizen between eighteen and forty-five years of age, able-bodied, and not otherwise exempt by law, is subject to military duty; and that the active militia force, which is to be styled "The Nebraska National Guard," shall consist of two thousand men, recruited for three years by volunteering, and distributed into four regiments.

The usually short session of the Nebraska Legislature was closed in 1881 on February 26th; the bills and joint resolutions passed in it amounted to 86. The aggregate number of those introduced and filed in either House during this session was 454—136 in the Senate and 318 in the House of Representatives. Among the acts passed, besides those above mentioned, was one "proposing an amendment to section 1, Article VII, of the State Constitution." Its object is to give women the right to vote at political elections. Both the amendment, and the manner of submitting it to the popular vote for adoption or rejection, are expressed in the act as follows:

SECTION 1. Every person of the age of twenty-one years, and upward, shall be an elector. First, citizens of the United States; aliens naturalized thirty days prior to election.

SEC. 2. The ballots at the election at which said amendment shall be submitted shall be in the following form: "For proposed amendment to the Constitution relating to rights of suffrage." "Against the proposed amendment to the Constitution relating to rights of suffrage."

A new school law, repealing or remodeling the whole system of public instruction, and all amendatory acts heretofore in force in the State, was adopted. The act provides for all the departments of the system in detail, being

distributed into fourteen subdivisions, and each of these into a number of sections. The common-school course is to comprise orthography, physiology, arithmetic, English grammar, and English composition. School-books are to be adopted by the Board of Trustees; and the annual school-meetings are to be held on the first Monday in April, women being allowed to vote in them, provided they own personal property assessed, or have children of school age.

A new mechanics' lien law, repealing or amending the one heretofore in force, was enacted as follows:

SECTION 1. Any persons who shall perform any labor or furnish any material or machinery or fixtures for the erection, reparation, or removal of any house, mill, manufactory or building, or appurtenance, by virtue of a contract or agreement expressed or implied, with the owner thereof or his agents, shall have a lien to secure the payment of the same, upon such house, mill, manufactory, building, or appurtenance, and the lot of land upon which the same shall stand. Such lien shall be preferred to all other liens or incumbrances which may attach to, or upon, such lands, buildings, or improvements subsequent to the commencement of such buildings, the furnishing or putting up of such machinery, or the making of such repairs.

Another act to secure the payment of labor performed or materials furnished for "railroad, canal, bridge, and ditching companies, and persons," was passed. A general railroad law was also adopted, "to fix a maximum standard of freight charges on railroads, and to prevent discrimination therein, or secret rates, rebates, or drawbacks therefor." It provides for uniform rates, as follows:

SECTION 2. No company shall hereafter charge, collect, or receive for transportation of merchandise or other property upon said road a higher rate for such services than was charged by said road for like services in November, 1880; shall not allow drawback or rebate whatever. A violation of this act shall be liable to all damage sustained by such violation, and liable to a fine of \$500, to be recovered in the name of the individual injured, "and no railroad company shall demand, charge, collect, or receive for such transportation for any specific distance, a greater sum than it demands, charges, collects, or receives for a greater distance."

A memorial to Congress was also passed relative to unjust discriminations and excessive freight-rates charged by railroad companies, with a joint resolution requesting the Nebraska Representatives in Congress to favor Federal legislation "to correct the said abuses of railroads."

An act "to prevent treating in saloons, and other public places," was also passed, which makes both treater and treatee guilty of a misdemeanor, and imposes on each of them a fine of \$10, or imprisonment in jail, or both. They shall also pay to the court \$16 for the prosecuting attorney. If no attorney is employed, this money is to be paid to the school fund.

An enlargement of the Capitol is under construction, and provision has been made for the erection of a building for the deaf and dumb, and to establish a Home for the Friendless.

In the following table is given the population of the State by counties in 1880 and 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adams.....	10,235	19	Furnas ⁷	6,407	....	Pawnee.....	6,920	4,171
Antelope ¹	3,953	....	Gage.....	13,164	3,859	Phelps ¹⁶	2,447	....
Blackbird.....	109	31	Gosper ⁸	1,673	....	Pierce.....	1,202	152
Boone ²	4,170	....	Greeley ⁹	1,461	....	Platte.....	9,511	1,899
Buffalo.....	7,531	193	Hall.....	8,572	1,057	Polk.....	6,346	186
Burt.....	6,937	2,347	Hamilton.....	8,267	130	Red Willow ¹⁷	3,044	....
Butler.....	9,194	1,290	Harlan ¹⁰	6,036	....	Richardson.....	15,031	9,780
Cass.....	16,633	3,151	Hayes ¹¹	119	....	Saline.....	14,491	3,106
Cedar.....	2,899	1,032	Hitchcock ¹²	1,012	....	Sarpy.....	4,481	2,913
Chase ³	70	....	Holt ¹³	3,237	....	Saunders.....	15,310	4,547
Cheyenne.....	1,553	190	Howard ¹⁴	4,391	....	Seward.....	11,147	2,953
Clay.....	11,294	54	Jefferson.....	8,096	2,440	Sherman ¹⁸	2,061	....
Colfax.....	6,583	1,424	Johnson.....	7,595	3,429	Sioux ¹⁹	699	....
Cuming.....	5,569	2,964	Kearney.....	4,072	53	Stanton.....	1,313	636
Custer ⁴	2,211	....	Keith ¹⁵	194	....	Thayer ²⁰	6,113	....
Dakota.....	3,213	2,640	Knox.....	3,666	261	Valley ²¹	2,324	....
Dawson.....	2,909	103	Lancaster.....	28,090	7,074	Washington.....	8,631	4,452
Dixon.....	4,177	1,345	Lincoln.....	3,632	17	Wayne.....	813	182
Dodge.....	11,263	4,212	Madison.....	5,589	1,133	Webster.....	7,104	16
Douglas.....	37,645	19,982	Merrick.....	5,341	557	Wheeler ²²	644	....
Dundy ⁵	37	....	Nance.....	1,212	44	York.....	11,170	604
Fillmore.....	10,204	238	Nemaha.....	10,451	7,593	Unorganized ter-		
Franklin.....	5,465	26	Nuckolls.....	4,235	8	ritory.....	2,913	235
Frontier ⁶	934	....	Otoe.....	15,727	12,345			
The State.....							452,402	122,993

¹ Organized from original territory in 1871.

² Organized from original territory in 1871.

³ Formed in 1873; unorganized and attached to Frontier for judicial purposes.

⁴ Organized in 1877 from original territory.

⁵ Formed in 1873 from original territory; unorganized and attached to Hitchcock for judicial purposes.

⁶ Formed in 1872 from original territory.

⁷ Formed in 1873 from original territory.

⁸ Formed in 1873 from original territory.

⁹ Formed in 1871 from original territory; organized in 1872.

¹⁰ Formed in 1871 from original territory.

¹¹ Formed in 1877 from original territory; unorganized.

¹² Formed in 1873 from original territory.

¹³ Formed in 1876 from original territory.

¹⁴ Formed in 1871 from original territory.

¹⁵ Formed in 1873 from part of Lincoln.

¹⁶ Formed in 1873 from original territory.

¹⁷ Formed in 1873 from original territory.

¹⁸ Formed in 1873 from original territory.

¹⁹ Formed in 1877 from original territory; unorganized.

²⁰ Formed in 1872 from part of Jefferson.

²¹ Formed in 1871 from original territory; organized in 1873.

²² Formed in 1877 from original territory; unorganized.

NETHERLANDS, THE, a kingdom of Europe. King, William III, born February 19, 1817; succeeded his father March 17, 1849. He was married first to Sophie, daughter of King William I of Würtemberg (died June 3, 1877), and secondly to Emma, Princess of Waldeck-Pyrmont. He has one son, Alexander,

Prince of Orange, born August 25, 1851; and one daughter, Wilhelmine, born August 31, 1880.

The area of the several provinces of the kingdom, and the population, according to the census of December 31, 1879, and according to an official estimate of December 31, 1880, are as follows:

PROVINCES.	Square kilometres.	POPULATION ON DECEMBER 31, 1879.			Population on December 31, 1880.
		Male.	Female.	Total.	
North Holland.....	2,770	323,688	351,302	679,990	694,166
South Holland.....	3,022	337,104	416,426	803,530	818,477
Utrecht.....	1,384	94,087	97,592	191,679	194,868
Zealand.....	1,785	92,683	96,050	188,633	188,614
Brahant.....	5,128	234,145	232,352	466,497	470,431
Limburg.....	2,204	120,982	118,471	239,453	239,692
Gelderland.....	5,081	235,766	231,039	466,805	471,501
Overijssel.....	3,345	139,772	134,364	274,136	276,246
Drenthe.....	2,663	61,423	57,422	118,845	119,884
Groningen.....	2,298	124,860	123,886	259,246	255,686
Friesland.....	3,320	163,752	166,125	329,827	331,515
Total.....	33,000	1,983,164	2,029,529	4,012,693	4,060,580

The total population, according to the census of 1879, was divided as follows among the different religious denominations:

Protestants.....	2,469,814
Catholics.....	1,439,137
Jews.....	81,693
Others.....	22,049

The birthplace of the inhabitants, according to the census of 1879, was as follows:

Netherlands.....	3,936,113
Dutch colonies.....	7,604
Germany.....	42,026
Belgium.....	18,816
Great Britain.....	1,614
Other countries.....	5,320
Unknown.....	1,195

Total..... 4,012,693

The population of the principal cities at the close of 1880 was as follows:

Amsterdam.....	326,196
Rotterdam.....	152,517
The Hague.....	117,856
Utrecht.....	69,221
Groningen.....	47,160
Arnhem.....	41,793
Leyden.....	41,241
Haarlem.....	33,152

The movement of population in 1880 was as follows:

Marriages.....	30,849
Births { inclusive of still-births. }	151,360
Deaths { inclusive of still-births. }	102,806
Still-births.....	7,525
Surplus of births.....	43,574

In the budget for 1881 the expenditures and revenues are estimated as follows (in Dutch florins):

EXPENDITURES.	
1. Royal house.....	750,000
2. Cabinet, supreme state authorities.....	618,518
3. Ministry of Foreign Affairs.....	660,399
4. " of Justice.....	4,591,879
5. " of the Interior.....	10,180,735
6. " of the Navy.....	12,124,440
7. " of War.....	20,992,500
8. Public debt.....	28,167,812
9. Ministry of Finance and Worship.....	18,687,620
10. Colonies.....	1,371,736
11. Public Works, Commerce, and Industry.....	26,271,296
12. Unforeseen.....	50,000
Total.....	124,466,985

REVENUE.	
1. Direct taxes.....	24,755,185
Land-tax.....	10,730,785
Poll-tax.....	10,032,000
Patent-tax.....	3,942,400
2. Excise.....	33,925,000
On spirits.....	22,400,000
On other liquors.....	16,525,000
3. Taxes on stamps, registration, and inheritances.....	23,460,000
4. Customs.....	4,611,040
5. Taxes on gold and silver ware.....	301,100
6. Public domains.....	1,550,000
7. Posts.....	4,000,000
8. Telegraphs.....	935,800
9. Lottery.....	430,000
10. Taxes on game and fishery.....	149,000
11. Pilotages.....	924,000
12. Taxes on mines.....	2,875
13. State railroads.....	2,200,000
14. Miscellaneous.....	2,866,605
Total.....	105,110,605

The financial estimates are always framed with great moderation, mostly exhibiting a deficit, which in the final account becomes a surplus. The public debt in 1881 amounted to 942,271,250 florins, divided as follows:

DIVISION OF DEBT.	Capital.	Interest.
1. Debt bearing interest at 2½ per cent	618,291,400	15,332,285
2. Debt bearing interest at 3 per cent	90,312,250	2,709,367
3. Debt bearing interest at 3½ per cent	10,392,000	366,345
4. Debt bearing interest at 4 per cent	134,337,000	7,375,480
5. Bonds bearing 4 per cent interest, issued in accordance with law of June 5, 1878.....	33,888,600	1,359,844
6. Miscellaneous, rentes, etc.....	10,000,000	55,391
7. Paper money, bearing no interest..		
8. Amortization.....		969,100
Total, 1881.....	942,271,250	28,167,812
Total, 1880.....	943,215,602	27,956,667

The army in 1881 consisted of 2,334 officers and 62,779 men. The navy, on January 1, 1881, comprised 103 steamers, with 389 guns, 17 sailing-vessels, with 153 guns, and 2 school-ships, with 8 guns.

The aggregate length of railroads in operation on January 1, 1881, was 1,901 kilometres, of which 1,009 kilometres were government roads.

The aggregate length of the state telegraph lines, on January 1, 1881, was 3,821 kilometres; aggregate length of wires, 13,817 kilometres; number of offices, 396; number of telegrams carried in 1880, 3,109,230.

The number of post-offices in 1880 was 1,316; the number of inland letters was 42,555,184; of foreign letters, 13,172,088; of postal-cards, 15,814,191; of newspapers, etc., 37,085,396.

The imports and exports in 1879 were as follows (in florins):

COUNTRIES.	Imports.	Exports.
Great Britain.....	219,003,000	129,081,000
German Customs Union.....	207,518,000	259,348,000
Hanse towns.....	18,245,000	10,437,000
Austro-Hungary.....	2,046,000	4,000
Belgium.....	111,857,000	94,253,000
Russia.....	82,901,000	7,562,000
Denmark.....	488,000	1,955,000
Sweden and Norway.....	9,816,000	4,728,000
France.....	16,950,000	10,349,000
Italy.....	2,301,000	4,110,000
Spain.....	7,946,000	1,224,000
Portugal.....	1,178,000	1,888,000
Other countries.....	6,985,000	1,314,000
1. EUROPE.....	682,234,000	526,253,000
United States.....	54,279,000	9,129,000
Cuba and Porto Rico.....	3,419,000	754,000
Brazil.....	1,291,000	743,000
States on the La Plata.....	866,000	141,000
Peru.....	7,734,000	
Other American countries.....	2,017,000	1,217,000
2. AMERICA.....	69,606,000	11,984,000
British East Indies.....	29,889,000	344,000
China.....	36,000	251,000
Japan.....	1,790,000	5,000
3. ASIA.....	31,715,000	600,000
4. AFRICA.....	5,073,000	1,217,000
5. OTHER COUNTRIES.....	914,000	1,000
Total foreign countries...	789,542,000	540,055,000
Java.....	55,994,000	41,485,000
Dutch West Indies.....	1,117,000	120,000
Total Dutch colonies.....	57,111,000	41,605,000
Total.....	846,653,000	581,660,000

The colonies of the Netherlands are considerably larger and more populous than the mother-country itself. In the East Indies, Java and Madura have an area of 131,733 square kilometres, and a population of 19,068,600. The aggregate area of the other colonies amounts to 1,700,000 square kilometres; their native population is not accurately known, but is estimated at about 7,800,000. The foreign population was as follows:

Europeans, civilians.....	83,026
Europeans, army.....	11,730
Europeans, navy.....	3,161
Chinese.....	819,837
Arabs.....	14,313
Hindoos.....	18,265

The capital, Batavia, has a population of 97,585; Samarang, 79,443; and Soerabaya, 118,824.

In America, the colony of Surinam or Dutch Guiana had, in 1879, an area of 119,321 square kilometres, with a population of 68,507; Curaçoa, in the West Indies, had 1,130 square kilometres, with 42,447 inhabitants.

The budget estimates of the Dutch colonies, for the year 1881, were as follows (in florins):

COLONIES.	Revenue.	Expenditure.	Deficit.
East Indies.....	142,602,554	144,671,160	2,068,606
Surinam.....	1,134,443	1,330,090	195,647
Curaçoa.....	395,091	572,222	177,131

The commerce of the East Indian colonies, in 1878, was as follows: imports, 140,450,000 florins; exports, 179,967,000 florins.

The revenues have improved of late years, but the process of extending the railroad system and acquiring the canals as state property entails considerable deficits in the annual budgets, and the consequent augmentation of the public debt. There remained from the revenues of the fiscal years 1874 and 1875 surpluses amounting to 6,093,607 guilders, and from 1876 to 1879 deficits amounting to 31,804,999 guilders. The remainder of the loan of 1878, of which 26,652,177 guilders was left, more than covered the resulting deficiency. In 1880 a surplus of 2,205,001 guilders was left over. The estimated amount of the revenue of 1881 was 108,650,000, and the estimated expenditures 126,150,000, leaving a deficit of 17,500,000 guilders for the year, and, deducting the disposable surplus, a resulting deficiency of 13,500,000 guilders. The estimates for 1882 were for 106,664,559 guilders of revenue and 128,695,940 guilders of expenditures, leaving an estimated deficit of 22,900,000, of which 14,000,000 guilders represented railroad construction, 1,226,000 guilders the improvement of the canal from Rotterdam to the North Sea, and 1,987,000 guilders expenditure on fortifications. The project of the construction of a canal to the Rhine would require the expenditure of 12,250,000 guilders, that of improving the Rotterdam and North Sea Canal 26,274,000, and the extension of the railroad network 14,000,000 guilders additional. The expenditure for such public works would require 127,400,000 guilders to be raised in a few years, and a new loan to cover this expenditure is proposed.

The estimate of the colonial revenue for 1881-'82 was 138,913,703 guilders; the estimated expenditure was 148,499,631 guilders. The improvement in the revenue, owing to the higher price of tin, does not prevent a large deficit occurring, to cover which, and the unliquidated liabilities of former years, a loan will be raised; and meanwhile the Treasury advances the sum of 25,000,000 guilders to clear off these floating liabilities, which is to be repaid out of the proceeds of the loan. The States-General also agreed to the proposal of the Colonial Minister, Van Goltstein, to abolish the *corvée* in the East Indies, and substitute a poll-tax of one guilder for the forced labor. The operation of the laws regulating the importation of opium into the colonies was made the subject of a parliamentary investigation. The privilege of selling the drug is farmed out, and the license fees have been gradually raised to a very high sum. It seems that the Government has overshot the mark, and caused a heavy contraband trade to spring up, with the consequence that the price of opium has gone down at the same time that the licenses have been augmented. The budget, which was voted in November, in-

cludes appropriations for the improvement of the Soerabaya Harbor and the excavation of a new outlet for the Solo River.

A conference for the regulation of the North Sea fisheries was held at the Hague in October, which framed a treaty to be concluded between Holland, England, Belgium, Germany, Denmark, Sweden, Norway, and France, which embodied the propositions brought forward by the British representatives. Vessels engaged in fishery are to be registered and numbered, and must present their papers to the captains of cruisers which will patrol the seas. These captains are empowered to settle all disputes which shall arise between fishermen on the sea.

General van der Heyden, who had brought the war in Acheen to a termination at last, received great honors on his return to Holland. Great Acheen was placed under a civil government, but the sequels of the outbreak still kept the country disturbed. Some of the chiefs had not made their submission, and during the entire year marauders plundered the settlements, without the military and police being able to prevent them. The royal decree for the replacement of the military dictatorship by a civil administration was issued in October, 1879, but the time of its execution was left to the discretion of the Governor-General in Batavia. The war in Acheen was carried on with great losses in men and treasure, and with varying fortune, from 1873 to 1877, under Generals Koehler, Van Swieten, Pel, Wiggers, Van Kerchem, and Diemont. With the exception of Pel, who died prematurely, none of these commanders gained any decided successes. In the beginning of 1877, Colonel (afterward Lieutenant-General) van der Heyden was given the command, after a visit of the Governor-General van Lansberghe. The ability and energy of the new commander soon changed the situation, and after two of the most brilliant campaigns ever fought by the Dutch in the East Indies, he could report the war ended. The obstinacy of the resistance offered by the Acheenese was such that over 60,000 Dutch soldiers met their death in the field or in the hospital. The heaviest losses were when Koehler and Van Swieten commanded, while under Van der Heyden they were insignificant. The victorious general remained in the country, which he ruled with wisdom as a kind of military dictator. His kindly and judicious government won the reverence and gratitude of the natives, to whose race he himself partly belonged, being born of a Malay mother. The land was beginning to flourish, although the cost of the administration could not yet be supported by the people themselves. Nevertheless, there were many protests raised in the Netherlands against the long-continued military rule. Pruis van der Hoeven went out in the beginning of 1880, to take over the direction of affairs and establish civil government, but the universal protests

raised by all classes of the population made a change in the plan desirable, so that it was given out that the civil official had come to introduce certain reforms in co-operation with Van der Heyden. At length the progress toward order and prosperity was so manifest, and the outside pressure so strong, that the military governor was relieved, and Pruys van der Hoeven assumed the full authority in March, 1881. The new administration was no sooner set up, than tumults and aggressions broke out afresh.

The documents relating to the rebellion in Acheen, which the Government finally communicated to the Chamber, after repeated refusals, contained evidence showing that the scheming of the American and Italian consuls at Singapore was the original cause of the costly military expedition in Acheen.

The evil consequences of the silver crisis are felt keenly in Holland, which is the only country in Europe that has clung to the single silver standard—a standard originally adopted to secure its financial system from the shocks of monetary crises and disturbances in London. The Government continues to work in a diplomatic way for the conclusion of an international agreement to preserve the double standard. In the fourteen months ending with October, 1881, the Netherlands Bank lost, through the drain to America, not only all its gold bullion, but 21,950,240 guilders in minted pieces besides. The Minister of Finance expressed a hope of a satisfactory conclusion to the deliberations of the next International Monetary Conference, which meets in April, 1882; otherwise the Government must choose between withdrawing from circulation and selling a large part of the heavy silver coins, or accepting a silver currency only, either of which results would be accompanied by serious inconveniences to the country.

The Transvaal rebellion excited the intensest sympathy in Holland. An address to the British Parliament, composed by Professor Hartung, received the signatures of all the principal citizens of every community, and was circulated in other cities of Europe and in the United States. There was even talk of enlisting a corps of volunteers in Holland for the war. The Netherlands Government, in December, 1880, interceded for the Transvaal Boers with the British Government, and received the reply that their representations would be considered, on the condition that no official pressure should be exerted.

The subject of the North Borneo Company, and the charter granted it by the British Parliament, was brought up in the Assembly, and Rochussen, who had lately exchanged the post of Ambassador at Berlin for the portfolio of the Exterior in the new Cabinet, explained that the British Government disclaimed the intention of asserting any political authority over the territory acquired by the company, which would be in contravention of a treaty

concluded with Holland in 1829, and the lands would continue, therefore, under the sovereignty of the Sultans of Brunai and Solok, from whom the company purchased its privileges.

A Government measure for tax reform was thrown out by the Chamber, and the Minister of Finance, in consequence, handed in his portfolio. The minister, Vissering, was a professor of political economy, and entered the Cabinet at its formation, on August 19, 1879. His defeated measure was a proposal for a two and a half per cent tax on dividends and coupons. The Chamber voted in favor of the tax, but amended the bill by exempting all dividends and interest which could be considered as mercantile capital, upon which the bill was withdrawn. The Prime Minister and the Minister for Foreign Affairs took charge of the Finance Department *ad interim* upon the acceptance of Minister Vissering's resignation in June. In September, the Prime Minister, Baron Lynden van Sanderburg, gave up the Ministry of the Exterior, in which he was followed by Rochussen, and became the regular Minister of Finance. It is the twenty-fifth time that the portfolio of the Exterior has changed hands since 1848. The new minister entered upon a diplomatic career in 1856 as *attaché* to the embassy in Berlin, and was Resident Minister at Copenhagen and at Stockholm from 1864 to 1869. In 1870 he went to Brussels as Minister Extraordinary and Plenipotentiary, and in 1871 to Berlin in the same capacity, in which post he remained until he was called into the Cabinet.

Since the days of Thorbecke the cohesion and discipline of the Liberal majority have been so lax, and the party so divided by personal rivalries and aversions, that the Clerical and Conservative opposition have exerted a greater influence over affairs than the Liberal party, which has been supported by a greatly preponderant majority of voters. The election laws of Holland give the electoral franchise to only a select portion of the people, and of that portion only a small fraction take enough interest in the political struggles to deposit their ballots. Usually there are not over 25,000 votes cast in the whole country. The extension of the franchise has been talked about by the Liberals for some time, and was in the programme of legislation for the session; but it would have been disadvantageous for the dominant party in the summer elections, and was for that practical reason deferred.

The general election took place on the 15th of June. The Chamber, before the election, was composed of 52 Liberals, 17 Ultramontanes, 12 of the Orthodox Evangelical party, called Anti-Revolutionists, and 5 Conservatives. One half the seats were contested, among them those of 29 Liberals. The Roman Catholics and Evangelicals joined efforts to oust the Liberals from power, and gained several seats, but not enough to give a majority

to the Conservative fractions united. The new Chamber was composed of 48 Liberals; 1 Savage, who, however, inclined more to the Left than to the Right; 5 Conservatives; 15 Anti-Revolutionists, and 17 Ultramontanes. The Left, therefore, exceeded the Conservative fractions combined, by 11 or 12 votes, having lost considerably in the elections. The opposition parties have devoted extraordinary efforts to the purpose of ousting the Liberals. The Catholic and the Orthodox parties struck up a temporary alliance for this object.

The new session of the Legislature began September 29th. One of the principal government measures was a new army law. The active militia is composed, in peace as well as war, of volunteers and drafted men. The term of service commences with the twenty-first year, and consists of one year's continuous service and periods of six weeks' attendance with the colors in the other four years. The privilege of appearing by substitute and of exchanging lots is retained, but substitutes must not be over thirty years of age. The maximum strength of the militia is raised from 55,000 to 62,400, and the annual recruits from 11,000 to 12,600. The National Guard, or reserve, embraces the entire male population capable of bearing arms between the ages of twenty and thirty. The "dormant" guard, which was subjected to no drill in time of peace, and was not armed, is abolished. The reserve is divided into two classes according to their efficiency, which are required to practice only from 40 to 50 and from 90 to 100 training-hours a year, respectively. The strength of the reserve corps is 142,000 in peace. The force which is estimated to be at any time fully trained and ready for mobilization is 81,000. In case of war the fully trained are to serve at once in garrison duty or in the field, while the others are to be instructed in training-camps in the interior of the country.

A copyright law was enacted, which fixes the term of property-rights in literary productions at fifty years from the time a copy of the publication is deposited with the Minister of Justice.

In connection with the adoption of a revised criminal code, a minority were in favor of the restoration of the death-penalty, which was abolished in 1870. The Minister of Justice stated that the convictions for crimes which merited death, according to the law in force up to that time, in the ten years immediately following the abolition of capital punishment, were 57 in number, while the number of those condemned to death in the ten years immediately preceding was 82. A comparison of the statistics of crime since 1811 showed that the graver offenses have diminished continuously.

The Government projects for the improvement of the canals from Rotterdam to the North Sea, and the construction of a new one from Amsterdam to the Merwede, connecting

that city circuitously with the Rhine, were carried through the Legislature; but the latter, before passing the Upper House, became the political question of the day. The people of Amsterdam desired a canal direct to the Rhine, and the municipality offered to contribute 3,000,000 guilders. The Minister of Public Works, Klerck, had threatened to resign if his scheme was rejected, so that the technical question of the practicability of the shorter route was complicated by the opportunity offered to give the ministry a set-back. The merchants of the capital were indignant at the rejection of their demand for a direct eastward connection with the Rhine.

The Minister of Justice, Moddermann, excited a commotion among his fellow-Liberals by an answer to an interpellation from the Clerical benches on the same question that was raised in England by Bradlaugh. It has been the custom for some time of the freethinking members to decline to take the parliamentary oath as being contrary to their religious principles, and they have been allowed instead to subscribe to the affirmation provided by statute. The minister delivered the opinion desired by the interrogators, to the effect that the affirmation can only be legally elected, instead of the oath, by members of those religious sects, like the Remonstrants, whose confessional principles are opposed to testifying by oath. The question was raised again from the Liberal side on the occasion of an atheist's having been excluded from one of the municipal councils on account of his declining to take the oath. The subject of the discussion was Dr. Hartog Heys van Zouteveen, of Assen. The Second Chamber rejected a resolution declaring it to be the sense of the Chamber that the right to affirm in taking a seat in municipal councils is a general one, and, by a majority of 62 to 16, adopted instead one proposed by a Catholic member, but approved by the minister, declaring a revision of the law of oaths to be necessary, and that the Chamber was prepared to limit the number of cases in which the oath is made obligatory. A new petition from the Evangelical opponents to secular education, that confessional schools might be re-established in place of the present state schools, was presented to the Government in October, and received the same negative answer which was given in 1878.

NEVADA. The material interests of Nevada, which were mentioned last year as having been depressed since 1878, have continued in that condition and manifested a downward rather than an upward tendency. To show the disproportion existing between the actual worth of property and the taxes yet levied on it, a leading local paper remarked, near the close of September: "Property in Virginia City and Gold Hill has depreciated alarmingly. The assessor has made his rounds, and many holders of real estate are now seriously debating in their own minds whether their posses-

sions are worth as much to them as the taxes which are to be exacted from them." The officers whose duty it is to inspect property and assign to it a value for taxation purposes have, of themselves, taken the present state of things into consideration, and in preparing their lists for 1881 generally assessed at a reduced valuation as compared with the assessments of previous years. The various mining companies in Storey County also severally applied to the Board of Equalization for a reduction of their assessments; and the representative of the Virginia and Truckee Railroad Company requested the board to reduce the assessment of that road in Storey County from \$16,000 to \$12,000 per mile on the main track, and from \$5,000 to \$4,000 on the side-track.

The Nevada mines yielded in 1881 several millions less than in the preceding year. The statement of the precious metals produced in the States and Territories west of the Missouri River during the year 1881 shows the yield from the Comstock to have been \$1,726,182, as against \$5,312,592 in 1880—a decrease of \$3,586,420; and the product of Eureka District is set down at \$4,127,265, as against \$4,639,025 in 1880—a decrease of \$511,760.

Active work in the mines, however, has been pursued in 1881 without abatement generally, and a large proportion of it was preparatory dead work of heavy expense, to serve as an opening for future operations, which are stated to afford a very promising prospect. The Consolidated Virginia, the California, and the Sierra Nevada, prominent among the numerous mines in the State, are now worked at the levels, the first-named one of 2,500 feet, the two others of 2,700 feet below the surface, and all of these depths were reached in 1881. In the annual reports of the superintendents of these three mines, giving an account of their operations, receipts, and expenses, they severally state that the work done in them from December 31, 1880, to December 31, 1881, "has been mostly of a preparatory nature," and a large amount of it "necessary dead work." As to means for "prosecuting their explorations in depth," all of the said mines are represented "to be now in a better condition than at any previous time." On this point the Superintendent of the Sierra Nevada concludes his report, saying: "At no time during the last two years have the prospects of the Sierra Nevada mine looked more promising than they do at the present time. . . . The mine is fully equipped with all necessary machinery for use under-ground and on the surface, which is now in first-class working order."

Respecting the location of "lodes," or "mining claims," and the time within which certain expenditures must be made on them to secure the possessor's title, local usages of doubtful origin and validity have been introduced in different mining districts, which the locator is required to comply with, or forfeit his claim. The Commissioner of the General Land-Office,

to whom inquiries on the subject were addressed, has given the subjoined important answer, saying:

In reply to your communication I have to state that the United States mining laws provide that the locator of a lode or mining claim must make the annual expenditures necessary for the maintenance of the possessory title at any time within one year from the 1st of January next succeeding to the date of location, and the miners of a mining district have no authority to make any rules conflicting with this law. If the mining laws of your district require that \$50 shall be expended within sixty days after the location, such provision is wholly without force. Suppose a location to have been made July 1, 1880, the \$100 worth of expenditure is required by the United States laws to be made between the 1st of January, 1881, and the 31st of December, 1881, and the expenditure made prior to this date, viz., within sixty days after the location, would not be in conformity with the provisions of this law.

In consequence of the law enacted by the Legislature at the session of 1881, uniting the two municipal governments of the city of Virginia and of the town of Gold Hill in Storey County into one government, under the administration of the commissioners of that county, the city of Virginia has ceased to exist as a separate corporate body, and her property, with the papers and effects belonging to all the departments of her government, has been formally transferred to the hands of the said board.

Other acts of a public character were passed at the same session, as follows: An act to reapportion the State for representation in her Legislature. By the new apportionment the members of that body are numerically reduced from seventy-five to sixty—twenty Senators and forty Assemblymen—distributed among the fourteen counties of Nevada as senatorial and representative election districts. An act "to aid the Nevada Benevolent Association" was passed. It authorizes the said corporation to give public entertainments, not exceeding five in number, and to distribute among the holders of admission-tickets certain valuable articles enumerated in the act. This law, which was commonly termed "The Lottery Law," and much commented upon, has been declared to be unconstitutional and void by the State Supreme Court. The decision was rendered in a case brought before it by the Attorney-General for adjudication. It expresses the unanimous sentiment of all the three members of the court, and is of considerable length, being a full and exhaustive review of the laws of Nevada and of other States relative to lotteries, and minutely surveys the whole field of jurisprudence on that subject. "Lotteries," as coming under the prohibition of the organic law of Nevada, the decision defines to be "a game of hazard in which small sums are ventured for the chance of obtaining greater"; thus including within the signification of that word all schemes intended for the distribution of prizes by chance, even though every one of the ticket-holders should draw a prize. An act to establish a State Asylum for the Insane

was also passed; its object being to require the State to keep and care for persons belonging to that unfortunate class within her own borders, instead of sending them to a private medical establishment at Stockton, in California. The act designates Reno as the place in which the asylum shall be erected, and created a board of commissioners charged with the duty of carrying its provisions into effect. An act "to appropriate funds for the relief of the several orphan asylums of this State," appropriates \$11,000 to be paid "to institutions which would receive orphan children, regardless of creed or sect," and appointed a "Board of Examiners," to inspect all claims presented by orphan asylums for the payment of any portion of the appropriation. This law has given occasion to an investigation, first before the Board of Examiners and then before the State Supreme Court, in a case entitled "Nevada Orphan Asylum *vs.* J. F. Hallock, State Comptroller," upon a bill presented to the Examiners on June 6th, for the payment of \$1,279.79. This amount was claimed as due to the said asylum in accordance with the provisions of the above act, "for the care of sixty orphans and twenty-eight half-orphans during the quarter ended June 3, 1881." After some discussion on this claim, the board referred it to the Attorney-General for his opinion as to its validity; upon which that officer subsequently addressed to the board the following communication:

OFFICE ATTORNEY-GENERAL, }
CARSON, June 30, 1881. }

To the Honorable the Board of Examiners in and for the State of Nevada.

GENTLEMEN: I have had under consideration the claim of the Nevada Orphan Asylum of Virginia, Nevada, referred to this office at your meeting, held June 6th, and beg leave to report as follows:

I am informed that the Trustees of the Nevada Orphan Asylum, of Virginia City, Nevada, do receive into their institution and provide for orphans and half-orphans, regardless of their creed or sect. I am also informed that all the orphans and other children received into said institution and instructed in the schools attached to the said Nevada Orphan Asylum were, and are, instructed in the religious sectarian tenets and doctrines taught in the Roman Catholic Church, and that they are required and compelled to attend and be present at prayers and religious services in that particular creed, and will not be permitted to attend any other place of worship; and, if such be the case, the said Orphan Asylum of Virginia City is not entitled to receive any sum or sums of money from the State Treasury, as applying any moneys for such purposes would be in violation of section 10 of Article XI of our Constitution. . . . I would therefore recommend that the board set apart a day in the near future, and send for persons and papers, and upon such investigation, if the Board of Examiners shall become satisfied that the said Nevada Orphan Asylum of Virginia be conducted upon sectarian principles, then the claim be rejected. But if orphans of all sects and creeds are received into said institution, and are not required to conform to the rules, regulations, and tenets of the Roman Catholic Church, they are entitled to have the claim allowed.

M. A. MURPHY, Attorney-General.

The Nevada Orphan Asylum in Virginia City is under the charge and management of the Sisters of Charity, who are Roman Catholics,

and the oral testimony, which was taken on November 29th, had for its object to ascertain whether the said institution is conducted in what is called a "sectarian" manner or not; the witnesses heard included the Mother Superior, who has had the asylum in charge from its first organization; the Sister who is, and has been for thirteen years, the secretary of the institution, and a school and music teacher in it; a Protestant female teacher in a public school of Virginia City for many years, who received her education at the asylum as a day-scholar for six years, and as a boarding-scholar for two years and a half more, during which thirty months she lived within the asylum building as her home; and two Protestant old residents of Virginia City who have sent their children to the asylum for their education, and left them living in it as boarding-scholars during four months and five years respectively. The answers given by these witnesses, the Attorney-General being one of the interrogators, established that the asylum received and cared for children of all creeds and sects; that Protestant children were "not required to conform to the rules, regulations, and tenets of the Roman Catholic Church," nor influenced in any way to become Catholics; but that they were left entirely free to follow and practice the doctrines of their own creeds.

A great addition to the wealth of Nevada is expected from working out the mica deposits existing in numerous sections of the State. From beds located in various parts of Eastern Nevada there have, in the course of the last five years, been taken specimens in sheets of considerable sizes, even as large as ten inches square.

A local railway has been built in Nevada during the year, connecting Bodie District with the timber-belt south of Mono Lake. It is a narrow-gauge road of thirty-one miles in length. For the first ten miles from Bodie the road is on a steep grade of two hundred feet to the mile, and the remaining twenty-one miles are on an arid alkali plain. The road is stated to have been built under very great difficulties, at a cost of about half a million dollars.

The following shows the population of Nevada by counties in 1880 and 1870:

COUNTIES.	1880.	1870.
Churchill	479	196
Douglas	1,581	1,215
Elko.....	5,716	3,447
Esmeralda.....	3,220	1,553
Eureka*.....	7,086	.....
Humboldt.....	3,480	1,916
Lander.....	3,624	2,815
Lincoln.....	2,637	2,985
Lyon.....	2,409	1,837
Nye.....	1,875	1,087
Ormsby.....	5,412	3,668
Roop.....	286	183
Storey.....	16,115	11,359
Washoe.....	5,664	3,096
White Pine.....	2,382	7,189
The State.	62,266	42,491

* Formed in 1873 from part of Lander.

NEW CHURCH, THE. The sixty-first General Convention of the New (Swedenborgian) Church met at Washington, D. C., May 20th. The Rev. Chauncey Giles presided. Delegates were present from the States of Massachusetts, New York, New Jersey, Pennsylvania, Delaware, Maryland, Michigan, Ohio, Indiana, Illinois, Georgia, Virginia, Wisconsin, and California, and from Canada. Statistical reports were presented from the associations as follows: Canada Association, 5 societies; Illinois Association, 450 members; Maine Association, 5 societies, 3 ministers, 330 members; Maryland Association; Massachusetts Association; Michigan Association; Minnesota Association; Missouri Association; New York Association, 8 ministers, 11 societies, 538 members; Ohio Association, 8 ministers, 3 licentiates, 11 societies, 557 members; Pennsylvania Association, 5 ministers, 7 societies, 357 members; societies at Denver, Col., New Orleans, La., Edenfield, Milwaukee, Wis., and San Francisco, Cal. A society in Savannah, Ga., applied for admission. The trustees of the Jungerich fund for promoting the distribution of the works of Swedenborg reported that after nine years of work in the distribution of the "True Christian Religion," and the "Apocalypse Revealed," in the course of which 20,500 copies of the former and 14,000 of the latter work had been sent out, the demand for the books continued steady. In all, 51,500 copies of Swedenborg's works had been distributed through this agency. The Board of Missions had received \$2,248, and had paid out \$1,882. The German Missionary Union, the object of which is to furnish German members of the New Church in the United States with books and tracts, had on hand the sum of \$749. It had provided a German liturgy and a singing-book for Sunday-schools, and had published a German edition of Tafel's "Authority in the New Church." The Theological School at Boston, Massachusetts, had been attended by six students. Instruction was given in the doctrines of the Church, "The Greek of the Word," the Latin of Swedenborg, and in elocution. Nearly half of the proposed endowment of \$50,000 had been secured. An address from the British Conference made especial mention of the spiritual good that had resulted from the interchange of New Church books between England and America. The work of greatest interest now was the projected publication by Professor Tafel of Swedenborg's treatise on "The Brain," which contemplates natural things from within. The revised version of the New Testament was also likely to be of interest to the New Church, and must be examined "with respect to its being a proper basis for the spiritual sense." An address was presented from the Australasian Conference of the New Church, announcing its organization. The Committee on Foreign Correspondence presented communications from Professor Loreto Scocia, in Italy; F. Goerintz, in Germany; A.

Byesen, in Sweden; William Winslow, in Denmark; S. Baumann, in Switzerland; and Mr. Schinek, in East Prussia. The letters mentioned the progress of the religious movement in Italy and Sicily, accompanied by larger sales of Swedenborg's works than had ever before been made, and the translation of many new works of the Church into the German language. An address was received from the Swiss society of the New Church in reply to the address of the Convention of 1879.

The American Swedenborg Printing and Publishing Society supplied more than sixty libraries with full or partial sets of Swedenborg's works during 1880. It also made a beginning of publishing the writings of the Church in a cheap form, and had published two editions of the "Four Doctrines," at the price of ten cents a copy, wholesale. It was engaged in publishing the works of Swedenborg in Latin, and had ready the "Apocalypsis Revelata," with the "Coronis," "De Divino Amore," and "De Divina Sapientia," soon to follow, and the "Apocalypsis Explicata," to be begun. The American New Church Tract and Publication Society had distributed to 1880 in all 22,500 volumes and 90,000 copies of tracts. It had also begun the publication of tracts in the German language.

The seventy-fourth General Conference of the New Church in Great Britain met in Manchester, August 8th. The Committee on Statistics returned the number of church-members as 5,192, against 5,199 as returned in the preceding year. Reports of correspondence were made from Sweden, Denmark, Buda-Pesth (Hungary), and Prussian Poland, and concerning the Italian missions. A Swedish translation of the "True Christian Religion" was in progress, of which a copy was to be presented to every Lutheran clergyman in Sweden, and a monthly paper was published in that country. Some books and a collection of hymns had been published, and a monthly paper was printed in Denmark. An agent in Prussian Poland had sold several copies of "Heaven and Hell" and the "Divine Providence" in the Polish language. A committee which had been appointed at the previous conference to revise the creed of the Church, presented a report which was not accepted, and another committee was appointed. A resolution was passed expressing appreciation of the value of the revised version of the New Testament, but declining to advise members of the Church to use it either in public or family worship. The Building Fund Committee reported a balance on hand of £700, but that no applications for grants were before it.

The seventy-first anniversary of the Swedenborgian Society, British and Foreign, was held May 21st. The translation of the Swedenborgian books into the Hindoo tongues had been begun, and a specimen of the first work in Marathi was shown to the numbers present at the anniversary meetings.

NEW HAMPSHIRE. Section one of the act providing for minority representation in corporations, passed by the Legislature of 1879, and submitted to the people for ratification or rejection at the November election of 1880, was ratified by a majority of the voters, viz., 22,560 for, 10,375 against; whole number of votes, 32,935.

The biennial session of the Legislature opened on June 1st. In the organization of that body, Chester B. Jordan, of Lancaster, was elected Speaker of the House of Representatives, and John Kimball, of Concord, President of the Senate.

Both Houses met in joint assembly on June 2d, to ascertain and publish the results of the State election held November 2, 1880, when the President formally declared, as duly elected for Governor, Charles H. Bell; and for State Councilors from the five districts, Thomas J. Jameson, Lyman D. Stevens, John W. Wheeler, George H. Stowell, and Arthur L. Meserve.

The chief officers of the State executive departments were elected by the Legislature in joint assembly, on June 15th, as follows: For Secretary of State, Eli B. Thompson, of Concord; State Treasurer, Solon A. Carter; State Printer, Parsons B. Cogswell; Commissary-General, George E. Lane.

The official term of Edward H. Rollins, United States Senator from New Hampshire, expiring March 3, 1883, the question whether his successor should be elected by this Legislature or by that which will convene two years afterward, engrossed the attention of the Republican members during the first two weeks of the session. Large numbers of them insisted upon the legality of such election at either of the said two sessions. The Democratic members took no active part in the conflict, yet openly favored a two years' postponement of the disputed election, cherishing, it is said, a hope of a Democrat being elected Senator in that event. Governor Bell, in his inaugural address, called attention to this matter as one to be determined at the present session, and both Houses referred it to their respective judiciary committees for consideration and report; the resolution adopted in the Lower House for that purpose instructing its committee "to report at the earliest practicable hour."

The Senate went even further, as, by a resolution offered on June 7th, and adopted next day—yeas 13, nays 10—it requested the Supreme Court to answer the question whether the Legislature now sitting has the power of electing a Senator to represent the State in Congress for the term commencing March 4, 1883. The Supreme Court answered that question affirmatively in a written document dated June 10th, and signed by six of its seven justices; the seventh making no answer, and stating his reasons for it. On account of the character and importance of the matter involved, the answer of the Supreme Court to the Senate on the question proposed is here subjoined:

To the Senate of New Hampshire:

The undersigned have received an attested copy of the resolution of your honorable body, requiring the opinion of the Supreme Court upon the question whether the existing Legislature has the power and right to elect a person to represent the State in the Senate of the United States for the term beginning March 4, 1883.

The first inquiry is, whether this is an important question of law on which the Senate is authorized to require the opinion of the court. It is evidently a question of law, and an important one; and it is none the less such a question because it is in our judgment free from all difficulty and doubt. It is a question of law necessary to be determined by the State Senate in the performance of its duties as a branch of the Legislature. We see no reason to doubt that it is constitutionally entitled to our opinion. In giving such an opinion, the justices do not act as a court, but as the constitutional advisers of either branch of the Legislature requiring their opinion; and it has never been considered essential that the question proposed should be such as might come before them in their judicial capacity. (128 Mass., 566; 53 N. H., 641.)

"The Senate of the United States shall be composed of two Senators from each State, chosen by the Legislature thereof for six years." (Constitution of the United States, Article I, section 3.)

The right of each State is not merely to be represented by two Senators, but to be represented by two Senators chosen by its Legislature.

The legislative duty of choosing Senators is comprehended in the State right of being represented by Senators chosen by the Legislature. The senatorial term is six years: "chosen by the Legislature for six years," is the language of the Constitution. The primary right of the State is not to be represented five years and nine months, or any other part of each senatorial term, by two Senators chosen by the Legislature, but to be represented during the whole of each term by two Senators so chosen; and the manifest constitutional duty of the Legislature is to elect Senators at such times that the State may be represented by two Senators, chosen by the Legislature thereof for six years.

The Constitution of the United States is the supreme law of the land, and so long as it remains in force in its present form, there can be no power, State or Federal, legally capable of depriving a State of the right which the Constitution has conferred upon it, or of relieving the Legislature from the duty which the Constitution has imposed upon it. And there is no more power to legally suspend the right and duty for a day, than for six years, or for ever.

The next Legislature, having no official existence until June, 1883, can not elect a Senator for the full term of six years, beginning March 4, 1883. Therefore the refusal of the present Legislature to elect a Senator for that term would be a violation of the constitutional right of the State to be represented by two Senators, "chosen by the Legislature thereof for six years." Such a refusal, leaving the State for three months represented by only one Senator chosen by its Legislature, would be as plainly unconstitutional as similar refusals leaving the State for all time without any Senators so chosen.

If, by an aggressive act of any Federal or State power, the States could be constitutionally deprived of their senatorial rights, for any part of a senatorial term, there would be no limit of the disfranchisement to which they would be liable. If a State can be constitutionally deprived of the right to have its vote given in the Senate by members chosen by its Legislature, it can be constitutionally deprived of its voice and vote in both Houses of Congress, expelled from the Union, or reduced to the condition of a conquered province. Its national rights would not be legal rights, in the ordinary sense, if they could be legally taken away without fault, without cause, without trial, and without remedy. A resolution of the Federal

Senate or an act of Congress, refusing to admit to their seats any more Senators from New Hampshire, chosen by its Legislature for six years, would, if carried into effect, violate the constitutional right of the State, but would not release the Legislature from their electoral duty. The performance of that duty would show that the State did not assent to its own disfranchisement.

When a vacancy happens by resignation or otherwise during the recess of the Legislature, the executive may make a temporary appointment until the next meeting of the Legislature, which shall then fill the vacancy (Article I, section 3). This power of temporarily filling vacancies by appointment is not a limitation of the right of the State or the duty of the Legislature. It is the constitutional right of the State that no vacancy shall be caused by the refusal of the present Legislature to choose a Senator.

The Federal Senate is the judge of the elections of its own members; and the legal presumption is, that it will admit a person duly qualified and legally elected. It is not, and can not be, bound to a contrary course by any action that has been or can be taken by itself or by Congress. Its published proceedings and debates furnish satisfactory evidence that it would admit a member chosen by the present Legislature, and that the doctrine of disorganization, equally hostile to the rights of the States and the perpetuity of the Union, is not held by that learned and honorable body. But if it should turn out that we are mistaken in this, the electoral duty of the present Legislature would not cease to be a constitutional one.

Congress has power to prescribe the time and manner of holding elections for Senators (Article I, section 4); and it has exercised that power. (Rev. Statutes, U. S., sections 14, 15.)

But as Congress can not legally violate the constitutional right of the State to be represented by two Senators chosen by the Legislature, and as that right would be violated by the refusal of the present Legislature to elect, it is not necessary to inquire into the validity of the act of Congress. But having examined the act, it may not be out of place to express the opinion that it is constitutional, because it can not be fairly construed to be a denial of the constitutional electoral duty of the present Legislature. Section 15, prescribing the manner of election, has no bearing on the present question, which is a question of the time only. Section 14 fixes the time. It provides, in substance, that a Senator shall be elected by the Legislature which is chosen next preceding the beginning of a senatorial term.

The Legislature here intended is a body of men who are the Legislature before the beginning of the senatorial term, and not a body of men who will be the Legislature, if they are alive, three months after the beginning of the term.

The legal meaning is easily and clearly settled by two elementary rules of interpretation. The first rule is, that the evil intended to be removed is strong evidence of the remedy intended to be provided. The evil was the election of Senators at too early a day by a Legislature that was not the latest one that could elect for the full term of six years. The remedy was the fixing such a time that the duty of electing for the full term should fall upon the latest Legislature that could perform the duty. The other and equally decisive rule of interpretation is, that Congress, as a legislative body, is presumed to have intended not to infringe constitutional rights, and to make a law that would be valid. The application of these rules leads to the conclusion that Congress meant a Legislature competent to perform the duty of maintaining the State right by electing a Senator for the full term, and not a Legislature incapable of performing that duty.

Congress has not power to prescribe the form of the State Constitution, or to fix the time when the Legislature shall be elected, or when its official term shall begin, or disfranchise a State for not making such a Constitution as Congress approves.

The Constitution of this State is constitutional and valid, and the State can not be legally deprived of its right to have a Senator elected by its Legislature for a full term on the ground that the election of the Legislature of June, 1883, occurs in November, 1882.

Concord, June 10, 1881.

C. DOE,
WILLIAM L. FOSTER,
C. W. STANLEY,
W. H. H. ALLEN,
ISAAC W. SMITH,
LEWIS W. CLARK.

Not having had an opportunity carefully to consider the question submitted by the Honorable Senate, and also being in doubt whether it is one upon which the opinion of the court may properly be required under the Constitution, I make no answer and express no opinion.
I. N. BLODGETT.

The Judiciary Committee of the Lower House reported on the senatorial election on June 9th, and that of the Senate on June 14th; both denying all electoral right to the present Legislature, and for about the same reasons variously expressed in the two reports, but mainly based on the letter of the statute regulating the election of Senators, and on the interpretation given it by the Committee on Privileges and Elections of the United States Senate in 1878, when a bill was referred to them involving the identical question whether the successor to Bainbridge Wadleigh, United States Senator from New Hampshire, whose term was to expire March 3, 1879, should be elected by the State Legislature at the June session of 1878, which was then holding, or at the session to be held in June, 1879—three months after the beginning of the term to be provided for. The said committee reported the right to elect in the proposed case to belong to the last-named session, by reason that it would be held by a State Legislature chosen in November, 1878, i. e., *next preceding* the expiration of Mr. Wadleigh's term, as the statute ordains; which report was accepted by the United States Senate, and, in accordance with its recommendation, the bill which had occasioned it was indefinitely postponed. The two Judiciary Committees of the State Legislature conclude their reports with recommending the passage of suitable resolutions; the one proposed by the Lower House committee being, "That the House will not go into an election of United States Senator at this session; and that the subject be postponed to the next Legislature."

This resolution was the subject of very hot and almost continuous debate during many days, several motions to amend having in the interval been made, discussed at length, and voted down, until the resolution itself was finally put on June 14th, and adopted by a *viva voce* vote, the majority of the votes for it having numbered sixty-four.

After the matter had been thus ultimately settled, sixty-four members of the Legislature—sixty-two Representatives and two Senators—who had been most active in bringing about that result, signed and published an address "To the Republicans of New Hampshire," dated June session, 1881, and entitled "The

Senatorial Question," setting forth the reasons of their action at great length. Among other things, they state the sentiment and expectation of the people of New Hampshire generally to have been that no election of a United States Senator should have taken place at this session; upon which they say, "To outrage this public sentiment by violating a positive law of Congress, and prematurely seizing a senatorship two years before the lawful time, seemed to us grossly partisan, highly inexpedient, and in every aspect injudicious and unwise."

The State finances appear to be in a very satisfactory condition. The sum of \$139,693 was paid last year on the principal of the public debt, which is now reduced to \$3,372,770.05, all liabilities included. State bonds to the amount of \$450,000 becoming due on September 1, 1884, the Governor recommends an increase of the annual State tax from \$400,000 to \$500,000 for the ensuing two years, to the end of canceling the said bonds at maturity.

The aggregate value of taxable property of all sorts—movable and immovable—in New Hampshire, and the amount of taxes levied on it for the current year, appear from the subjoined table, prepared by the State Board of Equalization. The totals for all the counties together were as follows: Polls, \$89,171; money, \$17,356,505; all other personal, \$18,959,343; real estate, \$123,511,284; total inventory, \$168,964,903; amount of taxes, \$2,615,684.32.

The polls enumerated in this table are valued for the purpose of taxation at one hundred dollars each.

The amount stated under the title of "total inventory" in the foregoing table does not include the moneys deposited in the savings-banks, except that portion of them which is invested in real estate; leaving \$31,913,113 of such deposits to be reckoned apart. By the addition of this sum the grand total of the property taxed in New Hampshire is \$200,878,016.

The aggregate taxes also, as above given, do not include the savings-banks tax, \$319,131.13, nor the railroad and telegraph taxes, \$176,792 (estimated as assessed in the previous year), which two items being added make the entire amount of taxes for the present year \$3,111,007.

The average rate of taxation, with regard to property, is \$1.46 on \$100 of valuation, the preceding year's average having been \$1.44½; and, with regard to persons, it is little less than nine dollars for every inhabitant in the State, and a little more than thirty-five dollars for each voter.

A separate table published by the Board of Equalization shows the number, value, and average of certain kinds of live-stock in New Hampshire, of which the totals for the entire State are as follows: Horses, 59,447; valued at \$3,389,790; average value, \$57.02. Oxen, 26,751; valued at \$1,258,120; average value, \$47.03. Cows, 96,574; valued at \$2,226,486;

average value, \$23.05. Other neat stock, 63,142; valued at \$1,024,946; average value, \$16.23; sheep, 229,049; valued at \$650,175; average value, \$2.84.

The values and averages given here for the State are quite different from those marked in the same table for single counties; and the counties also vary considerably from each other in that respect. It is averred that even in the same county, and in towns lying close to one another, the difference in the value of the same animals is so great that intentional undervaluation to the detriment of the State and other tax-payers is suspected. Of these discrepancies, in regard to different counties and to towns of the same counties, the following instances are given: "Horses are valued at \$105 each in Milford, and at \$31 in Livermore; oxen at \$70 each in Keene, and at \$30 in Livermore; cows at \$35 each in Manchester, and at \$11.61 in Albany; other stock at \$24.28 in Rollinsford, and at \$7.80 in Randolph; and sheep at \$5 in Atkinson, and at \$1.70 in Acworth. These are the extremes, and the valuations range all along between them. And the extremes in the several counties are nearly as great. For instance, in Rockingham, horses average \$85.70 in Portsmouth, and \$36.80 in Chester; oxen average \$64.65 in Exeter, and \$37.10 in Chester; and so on through all counties there will be found like extremes, and in all these classes of animals."

The amounts of taxable property held in New Hampshire by the twenty-two railway companies operating within her borders, and the taxes assessed on them, respectively, are stated in the table on the following page, transmitted by the Board of Equalization to the House of Representatives.

The aggregate deposits in the 64 savings-banks of New Hampshire amount to \$32,097,734.17, which is \$3,838,126.76 more than in 1880. The number of depositors exceeds that of last year by 9,602, they being at present 96,881. The amount deposited averages between ninety and one hundred dollars for every man, woman, and child in the State, and about one fourth of the inhabitants are depositors.

The State Board of Agriculture, which was established eleven years ago, has held about 400 meetings, given more than 2,000 lectures, maintained an extensive correspondence, and issued nine printed volumes—the tenth being nearly ready—for the promotion of the knowledge and interests of agriculture. To this may be added the service it has rendered by the analyses of commercial fertilizers, and, more recently, by its duties in relation to the licensing of venders of various articles essential to the farmer, with a view to the prevention of fraud and imposition. For this the expense to the State has not exceeded \$4,000 a year, one half of which was for printing.

The State Normal School is under wise direction. The sum of \$3,500 has been appropriated to this school. The present number

VALUATION AND ASSESSMENT OF RAILROADS, 1880.

NAMES OF RAILROADS.	Value of road, rolling-stock, and equipments.	Amount taxed in towns.	Value of whole road, exclusive of amount taxed in towns.	Amount of tax assessed for each road.
1. Eastern.....	\$400,000	\$73,190	\$326,810	\$4,035 12
2. Boston and Maine.....	1,442,000	34,000	1,408,000	17,600 00
3. Ashuelot.....	140,000	2,300	137,200	1,715 00
4. Boston, Concord and Montreal.....	2,064,000	30,021	2,033,979	25,424 73
5. Fitchburg.....	13,000	690	17,400	217 50
6. Nashua and Lowell.....	400,000	25,300	374,700	4,683 75
7. Wilton.....	250,000	1,030	248,920	3,111 50
8. Cheshire.....	965,000	51,300	913,700	11,421 25
9. Grand Trunk, lessee of Atlantic and St. Lawrence..	400,000	.....	400,000	5,000 00
10. Northern.....	1,873,966	13,700	1,860,266	23,253 32
11. Concord.....	2,500,000	63,550	2,436,450	30,455 62
12. Manchester and North Weare.....	73,000	.....	73,000	975 00
13. Concord and Portsmouth.....	450,000	5,350	444,650	5,553 12
14. Dover and Winnepesaukee.....	340,000	6,500	333,500	4,163 75
15. Portsmouth, Great Falls and Conway.....	170,000	7,050	162,950	2,036 87
16. Manchester and Lawrence.....	1,400,000	3,326	1,396,674	17,453 42
17. Concord and Claremont.....	350,000	.....	350,000	4,375 00
18. Sullivan County.....	500,000	.....	500,000	6,250 00
19. Worcester and Nashua.....	200,000	10,200	189,800	2,372 50
20. Mount Washington.....	140,000	.....	140,000	1,750 50
21. Monadnock.....	150,000	800	149,200	1,865 00
22. Suncook Valley.....	130,000	2,500	127,500	1,583 75

of students in attendance is 49—females 47, males 2.

In the State Asylum for the Insane there were, at the beginning of the last corporate year, 285 enrolled patients—males 129, females 156. Admitted during the twelve months, 134—males 71, females 63. Whole number under care during the year, 419—men 200, women 219. Discharged within the year, 95—men 54, women 41; died, 22—males 10, females 12; number of patients at the year's close, 302—men 136, women 166. This has been the largest number of patients within the institution since its establishment in 1843.

The Asylum's farm proper consists of about 100 acres. Its income in 1843, the first year of the institution, was \$561.67; in 1880 it had been \$8,827.37. Among the products of the farm last year were 100 tons of hay, 950 bushels of potatoes, 2,500 pounds of cabbage, 3,000 heads of celery, 8,400 pounds of pork, and 22,-812 gallons of milk.

An act was passed at the session of the Legislature for a new apportionment of representatives in that body, enumerating all the towns and wards of cities entitled to elect one or two representatives each, according to the respective number of its inhabitants, as shown by the State census of 1880. To towns having less than the constitutional number of inhabitants required for the election of a representative the act gives a proportional representation.

The June session of 1881 was closed by final adjournment on August 19th, having lasted eighty days—the longest sitting of a New Hampshire General Court on record. As to the laws of a general importance enacted at this session there were the following: "To aid ship-building"; "Providing for a report of the number and causes of divorcees"; "To legalize the erection of telegraph and telephone poles and wires, and similar structures for electric lighting"; "To establish a State Board of Health." The board is to consist of the Governor, the Attor-

ney-General, and four other members—three of them physicians and one a civil engineer—all to be appointed by the Governor, with the advice and consent of his Council.

The population of the State by counties, in 1880 and in 1870, was as follows:

COUNTIES.	1880.	1870.
Belknap.....	17,948	17,651
Carroll.....	18,224	17,332
Cheshire.....	28,734	27,265
Coos.....	18,550	14,932
Grafton.....	38,788	39,103
Hillsborough.....	75,634	64,233
Merrimac.....	46,300	42,151
Rockingham.....	49,064	47,297
Stafford.....	35,553	30,243
Sullivan.....	18,161	18,058
The State	346,991	313,800

NEW JERSEY. The Legislature for 1881 consisted of 15 Republicans, 5 Democrats, and 1 Independent in the Senate, and of 34 Republicans and 26 Democrats in the House. It assembled at the beginning of the year, and remained in session until the close of March. On the 25th of January, William J. Sewell, Republican, was chosen United States Senator over Theodore F. Randolph, Democrat, by a vote of 12 to 5 in the Senate, and 32 to 26 in the House. On the 18th of January, George C. Ludlow delivered his inaugural address as Governor. He called attention, among other things, to the necessity of a revision of the tax laws, and to the importance of preparing and adopting a system of general laws for the government of municipalities. These measures had been considered at previous sessions, and commissions to investigate and report upon the subjects had been appointed and had reported, but no final action had been taken by the Legislature.

The income and expenditures of the State are divided by the Treasurer into four general accounts, viz.: Agricultural College Fund, State Library Fund, School Fund, and State Fund.

The Agricultural College Fund is composed of State bonds resulting from the sale of lands donated by the General Government. The income from these securities, amounting to \$6,960, is collected by the State Treasurer and paid over to the Trustees of Rutgers Scientific School for certain specified purposes.

The State Library Fund consists of an unexpended balance of \$128.50, an annual appropriation of \$750, and a special appropriation made by the Legislature of 1881 of \$1,500, amounting to \$2,378.30. Of this amount, there was expended during the year, \$1,737.02, leaving a balance for the coming year of \$641.28, in addition to the annual appropriation of \$750 above mentioned. This account is not treated as a separate fund by the Comptroller, its income being derived exclusively from appropriations from the State Fund.

The reports show a steady increase in the receipts and accumulations of the School Fund. This is due to the fact that not only is there annually added to the principal amount a large sum of money derived from the sale and lease of riparian lands, but that the income of the fund from investments already made exceeds the only expenditure which can, under present laws, be made from it, viz., an appropriation of \$100,000 to aid in the support of public schools. The assets of the fund, at the close of the fiscal year, were as follows:

Railroad and bank stock.....	\$46,500 00
United States bonds.....	305,000 00
Railroad bonds.....	117,000 00
State and city bonds.....	35,000 00
Bonds of school districts.....	92,700 00
Bonds and mortgages.....	953,108 50
Principal of riparian leases.....	959,574 95
Real estate.....	82,000 00

Total.....	\$2,595,883 45
Interest due on bonds and mortgages.....	47,154 79
Rents due on riparian leases.....	55,913 61
Cash on hand.....	200,706 15

Total property of the fund..... \$2,899,656 00

These figures show an increase, since the last report, of \$135,589.05.

The receipts of the fund and the sources from which they are derived are shown by the following summary:

Interest on United States bonds.....	\$12,975 00
Interest on railroad bonds.....	7,020 00
Interest on New Jersey bonds.....	1,200 00
Interest on Jersey City bonds.....	900 00
Interest on bonds of school districts.....	6,245 70
Dividends on bank stock.....	660 00
Dividends on railroad stock.....	3,550 00
Interest on bonds and mortgages.....	43,347 34
Rentals on riparian leases.....	61,235 52
Grants of riparian lands.....	7,816 41
Tax on Hibernia Mine Railroad.....	747 05
Rent of real estate.....	1,213 75
Loans paid off, and leases converted into grants.....	120,458 28
Total.....	\$267,369 05

There should be deducted from this amount the last item of \$120,458.28, because it is not properly to be considered as a part of the income of the fund, but as a change in the form of the securities from loans and leases to cash in hand. This leaves, as the actual income of the fund, \$146,910.77. The only disbursement

which can, at present, be made from these receipts is the \$100,000 above mentioned; and this being made, leaves a balance of nearly \$47,000 to be invested, or otherwise disposed of. There is no reason to believe that this income will decrease in future years, as the investments from which it is derived are safe and substantial. On the contrary, it is reasonably certain that it will be increased, because of the continued receipts from the sale and lease of riparian lands, and the expected collection of the amount due as unpaid interest on bonds and mortgages and rents on riparian leases already made. It is considered that the method of levying the two-mill tax for the support of public schools, under the act of 1881, will produce over the yield of the previous year an increase of \$304,955.32.

Under the title of the State Fund are recorded the receipts and expenditures for the maintenance of the government of the State. The securities of this fund are stated as follows:

Stock of the joint companies.....	\$288,700 00
Bonds of the joint companies.....	24,000 00
Centennial stock.....	74,116 67
Bonds of the several counties for surplus revenue of the United States, loaned.....	764,670 44

Total..... \$1,151,487 11

From this amount there should be deducted the Centennial stock, which is valueless, and the bonds of the counties, on which no interest is paid. This will leave as actual assets the stocks and bonds of the joint companies, of a par value of \$312,700.

The operations of the State Fund are thus summarized from the statements of the Comptroller:

Balance in bank November 1, 1880....	\$384,730 45
Receipts.....	878,747 87

Total.....	\$1,263,478 32
Disbursements.....	1,096,208 93

Balance in bank October 31, 1881.. \$167,274 39

The receipts and disbursements for the years 1880 and 1881 were as follows:

	1880.	1881.
RECEIPTS.		
Total receipts.....	\$1,075,421 10	\$878,747 87
Balance on hand at beginning of year.....	316,688 69	384,730 45
Total.....	\$1,392,109 79	\$1,263,478 32
DISBURSEMENTS.		
Total disbursements.....	\$1,007,379 34	\$1,096,208 93
Balance on hand at close of year.....	384,730 79	167,274 39
Total.....	\$1,392,109 79	\$1,263,478 32

The Comptroller estimates the expenditures of the year 1882 at \$1,190,000—an excess over his estimate of the receipts for the year 1881, and the available bank balance, of \$264,569.36. Recognizing the inability of any possible receipts to meet these expenditures, he points out two courses of action, without

recommending either of them—the sale of a sufficient amount of the State's securities, or the imposition of a State tax. "The first method," says the Governor, in his message to the Legislature of 1882, "I agree with my predecessors, would be ill-judged; because the possession of these securities enable the Treasury to borrow money to meet any unexpected demand, as has often occurred in the past, and undoubtedly will in the future; and because it would result only in a postponement and aggravation of the evil attempted to be treated, inasmuch as the State would be deprived of the income now derived from them. As to the second plan suggested, I feel that, while it is advisable that the government of the State should be administered with reasonable liberality, it is equally clear that the people have the right to demand that that administration should be as economical as is consistent with the dignity and well-being of the State. Before resorting to the levying of a tax, therefore, our first duty should be to ascertain whether, or not, the receipts can not be increased, and the expenditures from, and charges against, the State Fund be judiciously reduced."

The Commissioner of the Sinking Fund gives the following statement of the assets of the fund:

Principal amount of mortgages	\$797,217 19
Interest due on same.....	44,749 04
United States bonds.....	20,000 00
Chambersburg school-bonds.....	8,000 00
Notes.....	3,808 37
Real estate (thirty-five pieces) purchased at foreclosure	373,512 95
Balance in bank.....	17,718 48
Total.....	\$1,265,000 48

The outstanding war bonds, for the security of which this fund is intended, amount to \$1,896,000. Of these bonds, \$100,000 mature each year up to 1891, and to meet them as they come due there is annually paid from the State Fund the sum of \$90,000, the Sinking Fund being required to provide the additional \$10,000 of principal and the amount of interest.

The business of the Riparian Commission for the year was very large, and shows a considerable increase over that of the preceding year. The commissioners report the following transactions during the year:

Grants of the fee.....	\$65,106 89
Leases, bearing 7 per cent interest.....	73,397 09
Total.....	\$138,503 98
Received on grants and leases of previous years	61,835 52
Total.....	\$200,339 50

There has been received since 1864, for riparian grants, the sum of \$1,389,908.34, in addition to which leases have been made of the principal amount of \$969,574.09. On these 7 per cent rent is paid.

The number of convicts in the State Prison, on the 31st of October, 1880, was 836; during the year 428 were received and 461 discharged, leaving the number in confinement on October 31, 1881, to be 803. The following statement

of the financial operations of the institution is given:

Maintenance.....	\$58,004 52
Less increase of inventory.....	1,195 84
	\$56,808 68
Repairs.....	3,785 37
Repairs extraordinary.....	7,550 38
Salaries of deputies, etc.....	46,345 19
Salaries of supervisor, keeper, and inspectors....	9,207 34
Paid discharged convicts.....	1,389 50
Total.....	\$125,036 46
By cash received from supervisor.....	56,147 52
Net loss to the State.....	\$68,888 94

This amount is \$21,528.67 in excess of the deficiency of the previous year. The increase is accounted for by a combination of circumstances: 1. There was a charge against the institution in 1881 of \$7,550 for repairs of shops injured by the fire; 2. The sum of \$1,500 was paid to a contractor for loss of time and business caused by the burning of the shops, and the payment diminishes the amount of cash reported as having been paid by the supervisor; 3. An excess of loss in productive labor this year over that of last, pending the rebuilding of the shops, amounting to about \$1,900; 4. The abandonment by one of the contractors of his contract, three months before it would have expired, at a loss to the State of \$2,400; 5. A loss in the employment of labor during the adjustment of the contracts under the new law, amounting to about \$13,400, making a total of \$26,750. The law passed at the last session of the Legislature, limiting the number of men to be employed in any one branch of labor to one hundred, has been strictly complied with by the authorities. Contracts have been made with different parties for the supplying of labor in the manufacture of seven different articles. These contracts, while requiring the manufacturers to pay for 20, 40, 80, and 100 men, whether used or not, allow them to employ as high as 100 men if their business requires it. And, as a matter of fact, there were used and paid for at times, in the month of October, as many as 475 men, with a daily average during the month of 419.

The inspectors and the supervisor unite in the statement, however, that, at the present rates received for the labor of the prisoners, even if all the men were employed, the State would not receive more than \$90,000 per annum. To meet the usual and ordinary expenses of the prison, \$120,000 is required. An offer was made to the supervisor in June by a manufacturer to take all the labor of the prisoners at rates which would have produced an annual income of \$110,000; but he was unable to accept it because of the law above mentioned, and contracts were made, as has been stated, which are expected, with other ordinary receipts, to produce some \$80,000.

The reports of the managers and superintendent of the Reform School for Boys show the number of the inmates at the beginning of the year to have been 258; committed and returned to the school during the year, 98; total,

356. Of this number 58 were returned to relatives and friends; 21 were put out to farmers; 5 escaped; 2 died; and 4 otherwise disposed of; total, 90. The number remaining in the institution on the 31st of October was 266. Of the number committed during the year, 13 were over the age fixed by the law, and 15 were for minor offenses, such as vagrancy, truancy, and incorrigibility. The financial statement shows receipts (exclusive of balance on hand) amounting to \$50,722.07, of which \$33,000 were from the State; \$15,492.16 from the labor of the boys on various contracts; \$1,978.82 from produce, material, and stock sold; and \$251.09 from miscellaneous sources. The disbursements were \$56,392.24, of which \$40,835.07 were for salaries, provisions, labor, fuel, clothing, and other expenses for the support of the institution; \$11,459.67 for machinery, farm implements, boilers and boiler-house, pumps and fire apparatus, furniture, repairs and improvements to buildings, and labor and machinery at brick-yard; and \$4,097.50 for new barns. The health of the institution has been unusually good. The farm has been worked at a profit of nearly \$5,000. The brick-yard turned out 460,000 bricks and 18,000 drain tiles. The shirt manufactory and laundry, in which the labor of the boys is hired out, produced an income of \$15,492.16.

The number of pupils in the Industrial School for Girls at the beginning of the year was 41; received, 9; total, 50. Of this number 15 were indentured, 5 discharged, and 5 were returned to their relatives—leaving 25 at the close of the year. The payment made by the State was \$3,000, which, with other receipts, amounted to \$6,692.72. Of this amount, \$6,200.40 was expended, leaving a balance of \$492.32.

The amount raised by the two-mill tax for public schools was \$1,322,740, an increase of \$304,955.32 over that of last year; and the number of pupils enrolled was 203,542, a decrease of 11,419 from that of the previous year.

There were during the year 236 pupils in the Normal School, and the last graduating class numbered 50 persons, nearly all of whom found immediate employment in schools throughout the State. The amount paid by the State during the last year on account of the institution was \$16,056.24—\$15,000 for support and \$1,056.24 for repairs.

The care of the insane in the State is intrusted to the State institutions at Trenton and Morristown, and to the county asylums in the counties of Essex, Hudson, Burlington, Camden, Passaic, and Cumberland. For the support of its insane the State pays \$1 per week for each county patient in the State and county asylums, and \$7 per week for each convict patient in the State asylums. Each county pays \$3 per week for each patient sent from it. These two payments are the principal sources of revenue of the State institutions.

The report of the managers of the Trenton asylum shows that there were at the beginning of the present fiscal year 550 patients under

treatment in that institution; 157 were admitted, making the total number under treatment 707; 130 were discharged or died, leaving 577 at the close of the year, of whom 461 are county, 36 State, and about 80 private patients. This number is as large as can be properly cared for and treated in the institution. The State patients are such as have been, after the commission of a crime, either declared innocent on the ground of insanity, or have become insane during the term of punishment. The managers renew their protest against the confinement of this class of patients in this asylum, because of the want of room for their classification, owing to the crowded condition of the institution, and because they are unable to make proper provision for the double duty of guarding them as prisoners and caring for them as patients. Of the 59 patients of this class which have been sent to the asylum, 7 have escaped, 8 have died, and 8 have been discharged as recovered, feigning insanity, etc. The inventory shows property of the value of \$114,300, an increase of \$5,314. There was paid from the State Treasury for the support of the institution during 1881 \$44,084.26, of which \$22,721.56 was for county patients; \$13,974.70 for insane convicts; \$7,200 for salaries, and \$188 for appraisement of property and fees of experts in determining insanity.

The Morristown asylum contained at the beginning of the fiscal year 586 patients; 187 were admitted, making the total number under treatment 773; of these 132 were discharged or died, leaving in the institution at the close of the year 641 patients, of whom 517 are county patients and 124 private patients. The annual inventory shows property of the value of \$99,473.14, an increase of \$749.98 over 1880. There was paid from the State Treasury to this institution during 1881, \$35,422.16, of which \$25,693.13 was for county patients, \$9,450 for salaries, and \$279.03 for expenses of appraisement and of the managers.

Of the several county asylums no knowledge is had except as to the number of patients for whom the State is called upon to pay one dollar per week under the act of April 4, 1873. The amount paid to these institutions during the year was \$41,329.28, a part of which, however, was for previous years for which no bills had been presented. The number of patients in the several institutions, at the date of their last bill presented to the Comptroller, was as follows: Essex, 303; Hudson, 217; Burlington, 67; Camden, 74; Passaic, 31; Cumberland, 71; a total of 763. How these patients are admitted, how cared for and treated, and how discharged, are matters about which the State authorities have neither any knowledge nor the means of securing any.

The State provides for the care and instruction of its unfortunate classes in the institutions of other States. The number of New Jersey pupils upon the rolls of the several institutions, and the amounts which they were

entitled to charge for the same, during the past year, were:

PUPILS.	Number.	Amount.
Deaf and dumb	156	\$48,004
Blind.....	40	11,390
Feeble-minded.....	57	14,790
Total.....	..	\$74,184

To the Home for Disabled Soldiers the State has contributed in the last nine years over \$369,000. The report of the institution for 1881 shows that there were 360 inmates on October 31, 1880; new admissions during the year, 112; re-admissions, 221; total, 693. There were discharged, 272; expelled, 21; and 36 have died, leaving, at the close of the year, 364 inmates. Of the total number of inmates during the year, 556 served in the New Jersey regiments, and 138 in those of other States and the regular Army and Navy. Out of a total expenditure of \$35,000, \$10,000 was for "out-patients."

The number liable to militia duty in the State is 223,094. The National Guard is organized as one division of two brigades. The First Brigade is composed of four regiments, two battalions of infantry, and one battery of artillery, numbering 156 officers and 1,801 men, and the Second Brigade of three regiments of infantry and one Gatling gun company, numbering 111 officers and 1,374 men. One Gatling gun company, with four officers and 54 men, is unattached. The entire force of the National Guard, including the general field and staff officers, is, therefore, 312 officers and 3,229 men, being an increase of 132 over the previous year. The entire expenses of the National Guard during the past year, as reported by the Quartermaster-General, were \$73,515.22, against \$79,225.69 for the previous year.

The Agricultural College is supported without expense to the State, the income from the fund derived from the sale of lands donated by the General Government being used in part payment of salaries, and Rutgers College providing the rest. The annual report shows that the institution is well managed; there were on the rolls last year forty-six pupils, thirty-seven from thirteen counties of this State and nine from other States.

The Agricultural-Experiment Station has been in successful operation.

By the report of the Labor Bureau it is shown that there are in the State 6,959 manufacturing establishments, with a capital of \$105,838,951; employing an average of 120,532 persons; paying \$43,757,753 in wages, and producing annually \$245,000,000 worth of wares.

There was paid from the State Treasury during the year, on account of pensions, the sum of \$7,837.22. The law of 1874 provided for the payment of a pension of \$100 per year to soldiers and sailors of the War of 1812, until the United States Government should take upon

itself the burden. This was done in 1878; and the pensioners of New Jersey were all placed on the Government rolls, except twenty-eight, who, while they had been mustered into the service of the State in the defense of the coast, had not been made a part of the national forces. To these the State continues to pay the pension of \$100 per annum. It was made known to the Legislature, in 1880, that there were certain persons who, having been entitled to the pension under the act of 1874, had not presented their claims, and were, therefore, debarred from the benefits of the law of that year. By the acts of 1880 and 1881 it was provided that such persons should be entitled to receive the pension for the period between the passage of the act of 1874 and of the United States law in 1878—within a few days of four years. To the Adjutant-General was assigned the duty of authenticating these claims; and he has approved eleven of them and rejected one. There was paid to these claimants the sum of \$4,268.66. This, with the claims of the first-mentioned list, and about \$200 expenses in collecting claims from the United States Government, makes up the amount paid from the Treasury.

The abstract of ratables returned by the Boards of Assessors for the several counties shows the valuation of the taxable property as follows: Valuation of 1881—Atlantic, \$4,577,238; Bergen, \$16,097,571; Burlington, \$25,856,143; Camden, \$19,217,640; Cape May, \$3,525,265; Cumberland, \$12,111,000; Essex, \$108,494,000; Gloucester, \$13,736,260; Hudson, \$91,901,996.50; Hunterdon, \$21,067,571; Mercer, \$29,890,820; Middlesex, \$18,326,000; Monmouth, \$27,991,000; Morris, \$21,040,447; Ocean, \$3,228,998; Passaic, \$27,953,345; Salem, \$13,396,976; Somerset, \$16,300,000; Sussex, \$9,960,657; Union, \$24,016,100; Warren, \$18,762,295. Total, \$527,451,222.50. This shows an increase over 1880 of \$8,833,703.86.

The United States census report shows that \$1,742,198 was raised by tax in New Jersey for school purposes in 1880. Of the total population, 1,131,116 in the State, 39,136 over ten years of age can not read, and 53,249 can not write; of the latter, 44,049 are white, and 9,200 colored. The percentage of white is 4.03, and of colored 23.53.

Within the past ten years a large number of summer resorts has sprung up along the coast. From Sandy Hook to Cape May are Port Monmouth, Highlands, Sea Bright, Island Heights, Long Branch, Deal Beach, Asbury Park, Ocean Grove, Ocean Beach, Spring Lake, Sea Girt, Squan, Point Pleasant, Squan Beach, Lavalette City, Sea-side Park, Island Beach, Long Beach, Beach Haven, Brigantine Beach, Atlantic City, Absecon Beach, Peck's Beach, Leaming's Beach, Five-Mile Beach, Seaville, Ocean View, and Cape May. The largest of these sea-side resorts are Long Branch, Asbury Park, Atlantic City, and Cape May.

A commission to propose amendments to the

Constitution was in session during the year, but its labors were not closed. The only State officers voted for at the November election were members of the Legislature. The Legislature of 1882 is constituted as follows: Senate, 13 Republicans and 8 Democrats; House, 29 Republicans, 29 Democrats, 1 Independent Democrat, and 1 Independent Republican and Anti-Monopolist.

In 1880 Dr. Leeds was commissioned by the State of New Jersey to investigate the subject of adulteration, and report to the Legislature for its guidance in framing laws against the practice. In teas he found three forms of adulteration in use. In one class of adulterated samples, the smallest, there was an excess of mineral substances which could not have been introduced in facing or other processes of legitimate preparation. The commonest class of adulterants consisted of exhausted leaves, and the next largest class of leaves of other plants. Only 10 per cent of the teas examined were found to be adulterated. The samples of coffee tested, both whole and ground, were found to be pure with few exceptions. The only adulterant was chiccory. Coffee-essence was found to be composed of chiccory, with licorice and caramel, and a slight proportion of coffee. Most of the samples of sugar purchased at random were found to be pure. The brown sugars were those which most frequently contained glucose. Sirups also, even the cheapest, were found to be little adulterated with glucose. Free sulphuric acid and lime in excess were not observed in any samples. Flour was found to be invariably pure. In bread the presence of alum was occasionally detected. Cream of tartar was extensively adulterated with sulphate of lime, acid phosphate of lime, and starch. Bicarbonate of soda also contained, occasionally, sulphate of lime. Baking-powders are, in some factories, made only from bicarbonate of soda, cream of tartar, and starch; others of the manufacturers employ, partly or entirely, in the place of cream of tartar, alum, acid sulphate of lime, or a mixture of both these salts. Condiments and spices were found to be seldom pure. No injurious mineral substance, however, was detected in any of them. Vinegar was found in many samples to contain much less acetic acid than should have been present. Samples sold as white-wine vinegar appeared to be cider-vinegar filtered through charcoal. Green pickles contained copper in every instance, excepting brine-pickles and those bearing the label of an English firm. Canned vegetables showed traces of both tin and lead derived from the cans. Skimmed and watered milk was sold frequently in New Jersey and New York, notwithstanding the stringent enactments to prevent such practices. Condensed milk was far from uniform in composition, the percentage of water varying from 25.5 to 59 per cent, and of fat from 3 to 11 per cent.

The following table gives the population of

New Jersey, by counties, in the years 1880 and 1870:

COUNTIES.	1880.	1870.
Atlantic.....	18,704	14,093
Bergen.....	36,786	30,122
Burlington..	55,402	53,639
Camden.....	62,942	46,193
Cape May.....	9,765	8,349
Cumberland.....	37,687	34,665
Essex.....	189,929	143,889
Gloucester.....	25,886	21,562
Hudson.....	187,944	129,067
Hunterdon.....	38,870	36,963
Mercer.....	58,061	46,856
Middlesex.....	52,286	45,029
Monmouth.....	55,538	46,195
Morris.....	50,861	43,137
Ocean.....	14,455	13,623
Passaic.....	68,560	46,416
Salem.....	24,579	23,940
Somerset.....	27,162	23,510
Sussex.....	23,539	23,163
Union.....	55,571	41,859
Warren.....	36,589	34,386
The State.....	1,131,116	906,096

NEW TESTAMENT, REVISION OF THE. A revised version of the New Testament, which had been prepared by committees of English and American scholars acting in co-operation under a resolution of the Convocation of Canterbury, was published in May. The efforts of which this work is the result began in 1856, when several movements were made in favor of a revision of the authorized version of the Scriptures. Resolutions were offered in the Convocation of Canterbury and in the House of Commons, praying for the appointment of a royal commission for the purpose, but no public action was taken in the matter at that time. In the same year, however, five scholars—the Rev. Henry Alford, afterward Dean of Canterbury; the Rev. John Barrow, D. D.; the Rev. C. J. Ellicott, D. D., now Bishop of Gloucester and Bristol; the Rev. W. H. Humphry; and the Rev. G. Moberly, D. C. L., now Bishop of Salisbury—on the invitation of the Society for the Propagation of the Gospel, undertook a revision of the Gospel of St. John. That work was published in the next year, and was followed in course by revisions of the Epistles to the Romans, Coriuthians, Galatians, and Ephesians. The work was favorably received, and the hope was encouraged that a sober and conservative revision of the Scriptures might in due time be undertaken, under the same principles of the co-operation of independent minds and corporate and collegiate discussion as had directed its execution. The next movement toward a revision was made in 1870, when, on motion of the Bishop of Winchester, a committee was appointed in the Convocation of Canterbury to confer with a committee of the Convocation of York, and report upon the desirableness of a revision of the authorized version of the Old and New Testaments, “whether by marginal notes or otherwise, in all those passages where plain and clear errors, whether in the Greek text originally adopted

by the translators or in the translation made from the same, shall on due investigation be found to exist." The Convocation of York declined to participate in the work.

The Convocation of Canterbury, on the report of its committee, approved the following resolutions: "1. That it is desirable that a revision of the authorized version of the Scriptures be undertaken; 2. That the revision be so conducted as to comprise both marginal renderings and such emendations as it may be found necessary to insert in the text of the authorized version; 3. That in the above resolutions we do not contemplate any new translation of the Bible or any alteration of the language, except where, in the judgment of the most competent scholars, such change is necessary; 4. That in such necessary changes the style of the language employed in the existing version be closely followed; 5. That it is desirable that Convocation should nominate a body of its own members to undertake the work of revision, who shall be at liberty to invite the co-operation of any eminent for scholarship, to whatever nation or religious body they may belong." A joint committee of the two houses was appointed to report a scheme of revision on the principles thus laid down, and was empowered "to invite the co-operation of those whom they may judge fit, from their biblical scholarship, to aid them in their work." This committee invited about forty scholars and divines of different denominations to assist it, and organized the body into two committees, one for the Old Testament and the other for the New Testament. The Convocation afterward instructed its committee to invite the co-operation of some American divines, and two American committees were also constituted. The British committee for the New Testament was composed of Bishops Ellicott, of Gloucester and Bristol, and Moberly, of Salisbury; the Prolocutor (Dr. Bickersteth, now Dean of Lichfield); Deans Alford (of Canterbury) and Stanley (of Westminster), representing the Convocation of Canterbury; Archbishop Trench, of Dublin, of the Irish Episcopal Church; the Rev. Dr. Angus (Baptist), the Rev. Dr. Eadie (United Presbyterian Church of Scotland), the Rev. Dr. Hort (of Cambridge), the Rev. W. G. Humphry, Professor Kennedy (of Cambridge), Archdeacon Lee, Dr. Lightfoot (now Bishop of Durham), Professor Milligan (Church of Scotland), Professor Moulton (Wesleyan Methodist), Dr. J. H. Newman (now Cardinal Newman), Professor Newth (Congregationalist), Dr. A. Roberts (Church of Scotland, and author of "The Companion to the Revised Version," which was published simultaneously with the work, for the purpose of making the nature and object of the changes more clear to general readers), the Rev. Dr. Vance Smith (Unitarian), Dean Scott (of Rochester), Dr. Scrivener, Dr. Tregelles (Congregationalist), Dr. C. J. Vaughn (now Dean of Llandaff), Professor Westcott.

Bishop Wordsworth (of St. Andrews), Dr. D. Brown (of the Free Church of Scotland), and Dean Merivale were afterward added. Dr. Newman declined the invitation to serve. Dean Alford, Bishop Wilberforce, Dr. Tregelles, and Dr. Eadie died previous to 1876, and the place of Bishop Wilberforce was supplied by Professor (now Archdeacon) Palmer. The number of members throughout was about twenty-four, and the average attendance about sixteen.

The following persons constituted the American New Testament Committee: Theodore D. Woolsey, D. D., LL. D., ex-President of Yale College, President of the Committee; Professor J. Henry Thayer, D. D., of Andover Theological Seminary, Secretary; Professor Ezra Abbott, D. D., of Harvard Divinity School; Rev. J. K. Burr, D. D., of Trenton, N. J.; President Thomas Chase, LL. D., of Haverford College; Chancellor Howard Crosby, D. D., LL. D., of New York University; Professor Timothy Dwight, D. D., of Yale Divinity School; Professor A. C. Kendrick, D. D., LL. D., of the University of Rochester; the Right Reverend Alfred Lee, D. D., Protestant Episcopal Bishop of Delaware; Professor Matthew B. Riddle, D. D., of the Theological Seminary at Hartford, Connecticut; Professor Philip Schaff, D. D., LL. D., of Union Theological Seminary; Professor Charles Short, D. D., of New York, Secretary; Rev. E. A. Washburn, D. D., of Calvary Church, New York. Of others who were appointed on the committee, Professor James Hadley, LL. D., of Yale College, attended one session, but died in 1872; Professor H. B. Smith, D. D., LL. D., attended one session, but resigned on account of ill health, and died in 1877; Professor H. B. Hackett, D. D., LL. D., of Rochester Theological Seminary, died in 1876; Professor Charles Hodge, D. D., LL. D., of Princeton Theological Seminary, never attended any of the meetings, but corresponded with the committee, and died in 1878. Professor G. R. Crooks, D. D., of New York, and President W. F. Warren, D. D., of Boston University, accepted appointments on the committee, but were not able to attend its meetings.

The Bishop of Winchester, the Rev. Samuel Wilberforce, D. D., was titular president of the British New Testament Committee, but he attended only one of the meetings, and the Bishop of Gloucester and Bristol, the Rev. C. J. Ellicott, D. D., actually performed the duties of president. The expenses of the committee were mainly paid by the presses of the Universities of Oxford and Cambridge, which became owners of the copyright of the completed work.

The following rules were laid down for the government of all the committees: 1. To introduce as few alterations as possible in the text of the authorized version consistent with faithfulness. 2. To limit, as far as possible, the expression of such alterations to the language of the authorized and earlier English

versions. 3. Each company to go twice over the portion to be revised, once provisionally, the second time finally, and on principles of voting as hereinafter provided. 4. That the text to be adopted be that for which the evidence is decidedly preponderating, and that, when the text so adopted differs from that from which the authorized version was made, the alteration be indicated in the margin. 5. To make or retain no change in the text on the second final revision by each company, except two thirds of those present approve of the same, but on the first revision to decide by simple majorities. 6. In every case of proposed alteration that may have given rise to discussion, to defer the voting thereupon till the next meeting, whensoever the same shall be required by one third of those present at the meeting, such intended vote to be announced in the notice for the next meeting. 7. To revise the headings of chapters, pages, paragraphs, italics, and punctuation. 8. To refer, on the part of each company, when considered desirable, to divines, scholars, and literary men, whether at home or abroad, for their opinion.

Six years were spent in making the first revision. The work was transmitted as it was done, part by part, to the American Committee, who returned it with their criticisms and suggestions, and these were considered by the English Committee on a second revision. The second English revision was then transmitted to the American Committee and considered by them. The work was again examined for the removal of harshness of diction and the remedying of rhythmical defects, and, again, for the purpose of bringing all the renderings of words into harmony. Bishop Ellicott, in communicating the report of the committee to Convocation, attested the thoroughness with which the work had been done, with the remark that "there is not a hastily-arrived-at judgment to be found in any page of the revised version." He also stated that the volume was in every part the result of united and corporate discussion; that he did not believe there would be found in the whole volume "the faintest trace of a rendering which would adjust itself to one or other" of two competing views of the original Greek; and the rule had invariably been observed to put the judgment of the majority in the text, and that of the minority in the margin.

The committee also gave much attention to the consideration of the Greek text as the original from which the revision should be made. It did not confine itself to any particular manuscript or text, but used all, subjecting them to a critical examination for each passage, and selecting for each the form which, after such examination, appeared to be correct.

The first meeting of the English Committee was held on the 22d of June, 1870, and the last one on the 11th of November, 1880. Four hundred and seven meetings were held in the

interval, at three fourths of which one third of the company were in attendance.

The departures which the revisers have made from the authorized version are of two classes: those which have been made in consequence of the adoption of an amended text, and those which are due to an amended rendering of the already received text. Changes, owing to the former cause, may be found in every chapter, but most of them are regarded as of very little importance. It is only on rare occasions that differences of reading have been found to involve questions of doctrine, or to be otherwise entitled to be regarded as of very great consequence. Among the more conspicuous changes of this character are the omission of the doxology (Matt. vi, 13) to the Lord's prayer, and of three clauses from the Lord's prayer, as given in Luke xi, the fact of which is indicated by marginal notes; the indication, by a note in the margin, that the closing passage of the Gospel of Mark, xvi, 9-20, is of doubtful authenticity; the marking, by putting it in brackets, of the fact that the passage concerning the woman taken in adultery (John vii, 53; viii, 11) is probably, while many believe it may be quite historical, no part of the original gospel; and the omission, as without warrant of authority, of the passage, 1 John v, 7, 8, relating to the three heavenly witnesses. The verses mentioning the descent of the angel into the pool (John v, 3, 4); the prophecy of the parting of the garments of the Saviour at the time of the crucifixion (Matt. xxvii, 35); the notification by St. Mark (Mark xv, 28) of the fulfillment of prophecy; the rebuke to the disciples in Luke ix, 55; the statement to the Ethiopian eunuch of the necessity of faith before baptism (Acts viii, 37); and the liberty of Christians (Rom. xiv, 6) not to observe certain days, have been removed from the text. Ten entire verses have been excluded from the gospels, of which three (xvii, 21; xviii, 11; and xxiii, 14) are from Matthew; four (vii, 16; ix, 44; xi, 26; and xv, 28) from Mark; two (xvii, 36; xxiii, 17) from Luke; and one (v, 4) from John. The number of words and phrases omitted is considerably greater. The Rev. B. Pick, Ph. D., while regarding none of them as of doctrinal importance, has recorded among the more noticeable omissions of this class, thirty-seven in Matthew, forty-five in Mark, and nine in John, and adds that "the list can be largely increased with some yet smaller items."

The emendations in the rendering of the accepted text comprise the correction of positive mistakes in the translations of the Greek; the rectification of mistakes relative to the grammar of the original, under which head are included more particular attention to the significance of the articles, attempts to represent the tenses of the Greek (particularly the aorists and the other past tenses) more accurately, and pains to give more exact definitions of the prepositions; the removal of archaisms by which the sense in the authorized version is made un-

intelligible or obscure, and the more consistent translation of proper names; and the maintenance of consistency in translating the same Greek words, and avoidance of confusion in the translation of different ones. In carrying out the latter principles the revisers have adopted the opposite course to that of the translators of the authorized version, who sought to introduce variety of expression into their work, and have endeavored, except in those instances where the context did not admit of it, to give a single English word for the same Greek word, wherever it might be found. A conspicuous instance in which this rule has been applied, and one that has caused universal remark, is in St. Paul's eulogy of charity (1 Cor. xiii), where the word "love" has been substituted for "charity."

The number of alterations that have been made is stated by Bishop Ellicott to represent an average of between eight and nine changes in every five verses for the gospels, about one and a half of which are critical changes, and about fifteen changes for every five verses, one and a half of which, as before, are for critical reasons, in the epistles. The whole number of changes is about sixteen thousand five hundred. While a majority of the changes may be so slight that the effect to the general hearer or reader may be regarded, as Bishop Ellicott asserts, as really hardly perceptible, many of them attract attention at once, and some of them have been the objects of much criticism. Conspicuous among these are the insertion of "deliver us from the evil one" instead of "deliver us from evil" in the Lord's prayer, and the change in Acts xxvi, 23, from "Almost thou persuadest me to be a Christian" to "With but little persuasion thou wouldst fain make me a Christian." The word "hades" has been retained wherever it occurs, instead of being translated into "hell," as in the authorized version.

In the opinion of the majority of the critics of the work, doctrinal points have not been materially affected by the revision. Dean Stanley has pointed out that, while no change has been made in any of the doctrines which all Christians alike hold, some of the views or constructions commonly called doctrines have been placed in a new light. The great doctrine of the Trinity is shown by another writer to be set forth in some passages in a stronger light than that in which it stood before. On this point Bishop Ryle, of Liverpool, commends, very emphatically, the "glorious testimony" which the revision bears to the soundness of the whole doctrinal system of Christianity, remarking that "after ten years of patient and diligent investigation, after careful examination of versions and manuscripts not known two hundred and fifty years ago, after the united labor of the ablest committee of biblical scholars that could be got together—after all this, the revised version comes forth from the crucible without the loss of a single doctrine of our most holy faith—let me say with every

doctrine more fully established than ever. . . . Not a single stone in the fabric of Christian truth has been disturbed. The Trinity, the proper Deity of Christ, the personality of the Holy Ghost, remain just where they were, and are even more clearly brought out than before."

A very noticeable feature in the volume is the large number of marginal notes. Of these, some are short notes bearing on differences of reading in the Greek text adopted by the revisers, but the greater number specify differences of rendering to which it seemed proper to call attention, either because other renderings than were adopted were preferred by a minority of the company, or because they have been advocated by scholars of eminence.

The part which the American Committee has contributed toward the shaping of the revision is not shown in the finished work. The volume as published embodies all the changes suggested by the American Committee which were finally agreed upon, without any distinctive mark to indicate their American origin. It is represented that a considerable proportion of the readings and marginal notes adopted were suggested by the American revisers. Other new readings proposed by the American Committee, which were not accepted, were published in an appendix to the authorized edition of the revision, to go out in company with the accepted text, in order to give the critical public an opportunity to decide upon their merits and their fitness to be finally adopted. The recommendations thus embodied in the "American Appendix" are included in three categories, those described as "Classes of Passages," the readings proposed for particular passages, and suggestions for marginal readings additional to those which are given in the body of the volume. Among the emendations recommended under the first head are the elimination of the title "saint" from the designation of the apostles; the substitution of modern, well-established words and forms of speech for ancient and antiquated ones, as "Holy Spirit" for "Holy Ghost," "who" for "which" when a person is designated, "know" and "knew" for "wot" and "wist," "drag" and "dragging" for "hale" and "haling"; to discard the use of "be" where "is" or "are" is meant; the substitution of "steadfastness" or "steadfast endurance" for "patience"; the use of "demon" instead of "devil" wherever the Greek word is "daimon." The class of changes suggested for particular passages includes a considerable number of emendations proposed for the sake of a more correct translation of the original, and relative to cases where it was thought the translation might be improved, even though the rendering for which another was substituted might be regarded as sufficiently accurate. The emendations relative to marginal notes propose some renderings additional to those already incorporated; suggest the omission of some which have been adopted; and

recommend the incorporation of a few notes relative to different readings in the Greek manuscripts.

The report of the committee, embodying its completed work, was made to Convocation by its chairman, the Bishop of Gloucester and Bristol, May 17th. After the report was made, the thanks of the House were accorded to the members of the Revision Committee who had not been appointed by Convocation. The Bishop of London then made a statement of the position in which the revised work stood. It had been spoken of as if it would at once take the place of the authorized version. This was not the case, for no one at present (in the Church of England) could use the revised version. When the whole work was completed, it would go out to the public, and would be before the Church for consideration; it might be years before the proposed alterations from the authorized version had so approved themselves to the Church—both clergy and laity—that steps could be taken to give authority for the use of the revised version. The bishop further suggested that it would be well to avoid hasty criticism, and await the results of careful study before pronouncing too decidedly upon the merits and defects of the work. The real purpose and value of the revision were that it laid before the Church and the laity alike the opinions of ripe scholars and of the ancient Church, and the result was an exceedingly valuable one, upon which, however, no opinion could be given until after full study, and with adequate knowledge.

The work was at first less favorably received in England than in America, but commanded general attention from scholars and the public in both countries. It has since been subjected to a searching criticism in the literary reviews, and in various semi-ecclesiastical assemblies for discussion, particularly in the English diocesan synods and the Church Congress. It is admitted to have many excellent features, to present a considerable number of improvements over the authorized version, and to make many passages clearer than they appear in that work. On the other hand, some of the critics complain of the extent to which the revisers have carried their desire to secure accuracy and uniformity in translation; that, in many instances, they have paid more attention to transplanting the form of the Greek expression than to giving it an appropriate representation in equivalents of idiomatic English, so that the beauty and strength of passages of peculiar force in the authorized version are destroyed, without making them really more exact or more plain. At the same time the value of the work as an auxiliary to the authorized version and to biblical study in general is recognized by most even of the unfriendly critics; and a high place among works of that kind is freely accorded to it. On this point the Dean of Peterborough has remarked

that "English students of the New Testament will be sure that they have here, in the judgment of the best scholars of the age, a text framed on the most ancient authorities, and a version as accurate as they can make it"; and Dean Howson, of Chester, that "they have now in this small compact volume that which they indeed possessed before, but which is now digested, completed, and arranged."

No ecclesiastical body has definitely recommended the revised version for adoption in the services of the churches. Most of the general assemblies and conferences which have met since it was published have, however, expressed an appreciation of the value of the services of the revisers, and have recommended the work to the careful, candid study and consideration of their ministers and people.

The new version was published simultaneously in England and the United States on the 20th of May. The orders for the first day's sales in the two countries amounted to 2,250,000 copies. An immense public demand was manifested for the work, which was sold freely at all the book-stores and stalls, and even by street-peddlers in the cities for several weeks, till nearly every person possessed a copy. Numerous rival editions to the authorized one were published, some of which contained the authorized and the revised texts in parallel columns; some incorporated the suggestions of the American Committee in the body of the text; and the revision was even published in a daily paper. Finally, the extraordinary demand seemed supplied, and the sales fell off.

NEW YORK. The annual session of the New York Legislature began on the 4th of January. The regular presiding officer of the Senate is the Lieutenant-Governor of the State, but W. H. Robertson, of Westchester County, was chosen President *pro tem.*, to occupy the chair in his absence. George H. Sharpe, of Ulster County, was chosen Speaker of the Assembly, over Erastus Brooks, the Democratic candidate. The first days of the session were largely occupied with awaiting the appointment of standing committees and caucusing on nominations for United States Senator to succeed Francis Kernan, whose term was to expire March 3d. There were some differences among Republicans in regard to the selection of a candidate for Senator, arising out of an antagonism between what were known as the Conkling and anti-Conkling, or "Machine" and "Anti-machine" wings of the party. At a caucus held January 13th, 105 votes were cast, 54 of which were for Thomas C. Platt, 26 for Richard Crowley, 10 for Sherman S. Rogers, 10 for William A. Wheeler, 4 for Elbridge G. Lapham, and 1 for Levi P. Morton. Mr. Platt, who was identified with the Conkling wing, having received a majority of the votes, was declared the candidate. The Democrats, in a caucus on the 17th of January, unanimously nominated Francis Kernan. The election took place on the 18th, and resulted

in the choice of Mr. Platt, the vote being 25 for Platt and 3 for Kernan in the Senate, and 79 for Platt and 44 for Kernan in the Assembly, or 104 for Platt and 47 for Kernan on the joint ballot. Subsequent events made more marked the political divergence of sentiment among the Republicans. When, in March, Senator Robertson received the appointment for Collector of the Port of New York, his associates in the Senate adopted a resolution approving the choice made by the President, and this action was followed in the Assembly, but shortly afterward the latter body reconsidered its action and laid the resolution on the table. It had appeared that the appointment was particularly distasteful to the New York members of the United States Senate. (For particulars in regard to this appointment and the controversy which it occasioned, see title GARFIELD, JAMES A., and special session of the Senate under CONGRESS, in this volume.)

Senators Conkling and Platt announced their resignation from the United States Senate on the 16th of May, having addressed the following letter to Governor Cornell:

WASHINGTON, May 14, 1881.

SIR: Transmitting, as we do, our resignations, respectively, of the great trusts with which New York has honored us, it is fit that we acquaint you, and through you, the Legislature and people of the State, with the reasons which, in our judgment, make such a step respectful and necessary.

Some weeks ago the President sent to the Senate in a group of nominations several persons for public offices already filled. One of these offices is the collectorship of the port of New York, now held by General Merritt; another is the consul-generalship at London, now held by General Badeau; another is *chargé d'affaires* to Denmark, held by Mr. Cramer; another is the mission to Switzerland, held by Mr. Fish, son of the former distinguished Secretary of State. Mr. Fish had, in deference to ancient practice, placed his position at the disposal of the new Administration, but, like the other persons named, he was ready to remain at his post if permitted to do so. All these officers, save only Cramer, are citizens of New York. It was proposed to displace them all, not for any alleged faults, or for any alleged need or advantage to the public service, but in order to give the great office of Collector of the Port of New York to Mr. William H. Robertson, as a reward for certain acts of his, said to have "aided in making the nomination of General Garfield possible."

The chain of removals thus proposed was broken by General Badeau promptly declining to accept the new place to which he was to be sent. These nominations summoned every member of the Senate to say whether he advised such transaction. The movement was more than a surprise. We had been told, only a few hours before, that no removals in New York offices were soon to be made, or even considered, and had been requested to withhold papers and suggestions bearing on the subject, which had been sent to us for presentation should occasion arise, until we had notice from the President of his readiness to receive them. Hearing that the Vice-President was equally surprised, we went to Mr. James, the Cabinet officer from our State, and learned that, though he had spent some time with the President on the morning of the day the nominations were sent in, no disclosure of an intention to send them had been made to him, and that he first knew of the matter by hearsay following the event. After earnest reflection and consultation we, believing the proceeding unwise and wrong,

whether considered wholly in relation to the preservation and integrity of the public service and as a public example to be set, or in relation also to the integrity of the Republican party, no public utterance or comment or censure was made by either of us in the Senate or elsewhere. On the contrary, we thought the President would reconsider an action so sudden and heavy, and would, at least, adopt less startling and objectionable modes of requiring personal or individual service. In this hope the following paper was prepared, and signed and presented by Mr. James to the President, who was subsequently informed that you had authorized your name to be added also:

"TO THE PRESIDENT: We beg leave to remonstrate against a change in the collectorship at New York by the removal of Mr. Merritt and the appointment of Mr. Robertson. The proposal was wholly a surprise. We heard of it only when the several nominations involved in the plan were announced in the Senate. We had, only two days before this, been informed from you that a change in the customs officers at New York was not contemplated, and, quite ignorant of the purpose to take any action now, we had no opportunity, until after the nominations, to make the suggestions we now present. We do not believe that the interests of the public service will be benefited by removing the present collector and putting Mr. Robertson in his stead. Our opinion is quite the reverse. We believe no political advantage can be gained for either the Republican party or its principles. Believing that no individual has claims or obligations which should be liquidated in such mode, we earnestly and respectfully ask that the nomination of Mr. Robertson be withdrawn.

CHESTER A. ARTHUR,
"THOMAS C. PLATT,
"THOMAS L. JAMES,
"ROSCOE CONKLING."

This paper was presented to the President by Mr. James on Monday, the 28th of March. Knowing the frequency with which every one of the twenty Presidents of the Republic, and markedly the present incumbent, had withdrawn nominations on less serious representations, we did not apprehend that such suggestions would be treated as an intrusion, or an invasion of any prerogative of the nominating power. We were disappointed. Immediately the public press, especially in articles and dispatches written by those in close and constant association with the President and with influential members of his Cabinet, teemed with violent denunciations of the Senators from New York for "opposing the Administration and dictating" to the President. Persons who visited the Executive Mansion reported the President as resentful and impatient of hesitation to advise and consent to what he proposed. We had made no assault upon anybody. We have at all times refused to answer questions by representatives of the press or to make complaint or comment, or even denial, of the many truthless articles published against us by officious champions of the Administration. Indeed, beyond confidential consultations with brother Senators and officials, we have said nothing until now on the subject. Nor have we, or either of us, promoted the dead-lock in the Senate in order to prevent or influence action on any nomination, nor have we ever so stated.

Immediately after the nominations were published, letters and telegrams in great numbers came from every part of the State from its leading citizens, protesting against the proposed changes and condemning them on many grounds. Several thousands of leading mercantile firms in New York, constituting, we are informed, a majority of every branch of trade, sent us remonstrances; sixty of the eighty-one Republican members of the Assembly, by letter or memorial, made objections; representatives in Congress, State officials, business men, professional men, commercial men, industrial and political organizations are among the remonstrants, and they speak from every

section of the State. Besides the nominations already referred to, there were awaiting the action of the Senate several citizens of New York named for offices connected with courts—district attorneys and marshals. These were all re-appointments; most of them had been originally commissioned by Mr. Hayes. They were certified by the judges of courts and many other eminent persons who attested the faithfulness and merits of their service, and recommended their continuance. They were not presented by us. We have not attempted to dictate, nor have we asked the nomination of one person to any office in the State. Indeed, with the sole exception of the written request, set forth above, we have never even expressed our opinion to the President in any case, unless questioned in regard to it.

Some days ago, the President abruptly withdrew, in one and the same act, the names of General Woodford and Mr. Tenny, and of two marshals. This unprecedented proceeding, whether permissible by law or not, was gravely significant. The President had nominated these officers after they had been weighed in the balance. Their official records were before him, and had been fully scrutinized and approved. It must be presumed that he thought the nominations fit to be made, and that it was his duty to make them. There is no allegation that he discovered any unfitness in them afterward. It could hardly be that he discovered unfitness in all of them alike. What, then, was the meaning and purpose of this peremptory step? It was immediately stated, as if by authority, and seems to be admitted, that the purpose was to force the Senate or Senators to vote as they could not vote if left free from Executive interference: it was to control the action of Senators touching matters committed by the Constitution to the Senate exclusively. It has been suggested, in addition, that by recalling these nominations and holding them in his own hand, the President might, in the event of the failure of another nomination, use them to compensate that failure. If it can be supposed all these public trusts are to be, or would in any event be made personal perquisites to be handled and disposed of, not only to punish independence of senatorial votes and action, but liquidate personal obligations of any individual, however high in station, the conditions are utterly vicious and degrading, and their acceptance would compel representatives of States to fling down their oath and representative duty at the footstool of executive power. Following this sweeping and startling executive act came ominous avowals that dissent, or failure to "advise and consent," would be held an act of offense, exposing all Senators from whatever State to the Executive displeasure. Thus we found ourselves confronted by the question whether we shall surrender the plain right and sworn duty of Senators by consenting to what we believed to be vicious and hurtful, or be assigned a position of disloyalty to the Administration which we helped bring in, and the success of which we earnestly wish for. We know no theory avowed by any party which requires such submission as is now exacted. Although party service may be fairly considered in making the selection for public offices, it can hardly be maintained that the Senate is bound to remove without cause incumbents merely to make place for those whom any individual, even the President or a member of his Cabinet, wishes to repay for being recreant to others or servicable to him. Only about two years ago the Senate advised that General Merritt be appointed collector at New York. It is understood that among the Senators who so advised was Mr. Windom, now Secretary of the Treasury, and head of the department whose subordinate General Merritt is. Another Senator known to have given this advice was Mr. Kirkwood, now Secretary of the Interior. It is said, like the Postmaster-General from our own State, that these Cabinet officers were not taken into consultation touching the removal of General Merritt, but their sworn and official action as Senators is none the less instructive. That

the late Secretary of the Treasury of the late Administration up to its expiration, less than ten weeks ago, approved General Merritt as an officer, is well known, and it is not here suggested that any citizen had petitioned for his removal, or that official delinquency on his part is the reason of it. In place of an experienced officer in the midst of his term fixed by law, it is proposed suddenly to put a man in who has no training for the position and who can not be said to have any special fitness for its official duties. In the inaugural of President Garfield, delivered on the 4th of March, stand these words: "The civil service can never be placed on a satisfactory basis until it is regulated by law. For the good of the service itself, for the protection of those who are intrusted with the appointing power against the waste of time and the obstruction of the public business caused by the inordinate pressure for place, and for the protection of incumbents against intrigue and wrong, I shall at the proper time ask Congress to fix the tenure of minor offices in the several executive departments, and prescribe the grounds upon which removals be made during the terms for which incumbents have been appointed." How good a distinction is which would make the major offices a prey to intrigue and wrong and shield the minor offices from a like horde, and decide whether the collectorships of the country should belong to the exposed or to the protected class, need not be discussed here. Assuming General Merritt to be an officer of average fitness and honesty, it might be reasonably argued that all Senators should, with alacrity, advise his displacement by means of obvious superiority. Possibly it might be said that all should advise the selection in General Merritt's place of a man who, without any superior fitness, had rendered his country, or even his party, conspicuous or exalted service. The case in hand does not belong to either of these classes. The vocation of Mr. Robertson and his legislative and professional experience and surroundings do not denote a superiority of these qualities, the knowledge, business habits, and familiarity with the revenue laws and system of the United States which might make him more competent than General Merritt to collect the vast revenues and administer the vast business pertaining to the port of New York. He certainly can not in this respect be held an exception to the rules of right and consistency on which the Constitution and laws have placed the public service. We know of no personal or political service rendered by Mr. Robertson so transcendent that the collectorship of New York should be taken in the midst of a term and given him as a recompense. Mr. Robertson is reported by the "New York Tribune" as declaring that his nomination was a "reward," a "reward for his action as a delegate to the National Convention." If Mr. Robertson in his action was influenced by a sense of duty, if he voted and acted his honest conviction, it is difficult to see what claim he had for any reward, not to speak of such a great reward. The action of which an estimate is thus invited is understood to be this: Mr. Robertson and sixty-nine other men accepted from the State Convention a certain trust. They sought and accepted the position of agents or delegates to the National Convention. The State Convention declared that its plainly stated judgment and policy was to be observed and supported by those it commissioned. To this declaration all selected as delegates gave implied consent, but several of them in addition made most specific personal pledges and engagements to exert themselves in good faith throughout to secure the nomination of General Grant. They made this pledge as a means of obtaining their own appointments as delegates, and they did, as we both personally know, obtain their seats in the National Convention upon the faith of their personal statements of their earnestness and fidelity. The obligation thus assumed we understood to involve integrity, as much as the obligation of one who receives the proxy of a stockholder in a corporation upon a pledge and promise to vote as his prin-

cial would vote. Whether Mr. Robertson was or was not himself bound, not only by honor and implication, but by expressly giving his word, becomes quite immaterial in view of the claim made for him. It is insisted that he "organized the bolt," or, as it has been sometimes stated, "he was the leader of the bolt." This is to say that he invited, persuaded, or induced others whom he knew had given their word and had obtained their seats by doing so, to violate their word and betray not only the Republicans assembled in State Convention, but the Republicans of their districts as well, who had trusted in their honor. Whoever counsels and procures another to do a dishonest or dishonorable act must share with that other the guilt, and should share, also, the odium justly attaching to it. We are, therefore, wholly unable, upon whatever ground we put it, to see justification for ourselves, should we become parties to using the public trusts which belong to the people to require such service in such modes. But the appliances employed to effect the results set up new standards of responsibility, and invade, as we believe, the truths and principles on which the separate and co-ordinate branches of the Government stand. A Senator has his own responsibility; he is amenable to his State and to the body of which he is a member; he is bound by his oath to "advise and consent" on his conscience and judgment before God, whatever or whoever else may constrain him; he is to be exempt from executive menace and disfavor on the one hand, and executive inducement on the other.

Long standing on the orders of the House of Commons has been a declaration that a member shall suffer expulsion who even shall report the wishes of the executive head of the government to influence the votes of members. The British Constitution is not more jealous than ours in this regard. To give advice, and honest, independent advice, as to appointments proposed, is as much the right and duty of a Senator as it is the right or duty of the President to propose. Be his advice one way or the other, it is no more an act of disrespect or treason to the nominating power than the verdict of a jury or the decision of a judge. The idea that the Senate has simply to find out what is wanted, and then do it, we can not believe safe or admissible, and thus far no party has dared or descended to set up such a test of party fidelity or allegiance. In this instance, such prominence has been given to the subject and such distrust has been expressed of the correctness of our position, that we think it right and dutiful to submit the matter to the power to which alone we are bound and ever ready to bow. The Legislature is in session. It is Republican in its majority, and New York abounds in sons quite as able as we to bear her message and commission in the Senate of the United States. With a profound sense of the obligation we owe, with devotion to the Republican party and its creed—"liberty and right"—with reverent attachment to the great State whose interests and honor are dear to us, we hold it respectful to make room for those who may correct all records we have made and interpret aright all duties we have misconceived. We therefore inclose our resignations, but hold fast the privilege, as citizens and Republicans, to stand for the constitutional rights of all men and of all representatives, whether of the States, the nation, or the people.

We have the honor to be, very respectfully,

Your obedient servants,

ROSCOE CONKLING,

THOMAS C. PLATT.

To his Excellency Governor Cornell, Albany, N. Y.

The resignation of the Senators was announced to the two Houses of the Legislature on the 19th of May, and, according to the provisions of the Federal statute, it would be necessary to begin balloting for their successors on the 31st. It soon became evident that it

was the purpose of Messrs. Conkling and Platt to seek a re-election as a vindication of the course they had seen fit to adopt, and that they would meet with a resolute opposition from a considerable number of the Republican members of the Senate and Assembly. It so happened that the committee on the part of the Assembly charged with the duty of calling a caucus in case it was required, was controlled by the "Stalwart" wing, and that on the part of the Senate by the Administration, or "Half-Breed" wing of the party, as these factions were popularly designated. The opponents of the ex-Senators were generally averse to a caucus, fearing that it would be so controlled and directed as to put them in the position of regular candidates for re-election. General George H. Sharpe, chairman of the Assembly Committee, requested Mr. Dennis McCarthy, chairman of the Senate Committee, to secure action for a joint invitation to a caucus. The committees, however, failed to co-operate, and an effort to secure a call for a caucus, signed by a majority of the Republican members of the two Houses, was also unsuccessful, and no Republican caucus was held before the date for balloting arrived. The Democrats held a caucus and nominated John C. Jacobs as a candidate for the seat vacated by Mr. Conkling, and Francis Kernan for that vacated by Mr. Platt. The first ballot was taken on the 31st of May. The Democratic vote of 7 in the Senate and 47 in the Assembly was united on the regular candidates, except that Mr. Jacobs himself, who was a member of the Senate, voted for George B. Bradley for the short-term vacancy. The Republican vote was divided among nineteen candidates. Mr. Conkling received 9 from the Senate and 26 from the Assembly, or 35 in all; 19 were given to William A. Wheeler, 13 to Sherman S. Rogers, 9 to Alonzo B. Cornell, 5 to Richard Crowley, 4 to Charles J. Folger, 3 to Theodore M. Pomeroy, two each to Henry E. Tremain, Andrew D. White, James W. Wadsworth, William M. Evarts, and Thomas G. Alvord, and one each to Hamilton Ward, Warner Miller, Samuel S. Edick, Reuben E. Fenton, Orlow W. Chapman, Silas B. Dutcher, and Hamilton Fish. The Republican vote for the long-term vacancy was: For Thomas C. Platt, 8 from the Senate and 21 from the Assembly, or 29 in all; 21 for Chauncey M. Depew, 12 for Alonzo B. Cornell, 8 for Elbridge G. Lapham, 6 for Charles J. Folger, 5 for William M. Evarts, 5 for Warner Miller, 3 for Richard Crowley, two each for Levi P. Morton, James W. Wadsworth, Henry E. Tremain, Noah Davis, Joseph H. Choate, and Sherman S. Rogers, and one each for George H. Sharpe, Theodore M. Pomeroy, William A. Wheeler, and John M. Francis. The full Republican strength was 25 in the Senate and 81 in the Assembly. The vote given to Conkling and Platt on this first ballot was regarded as indicating their entire support, and was at no time exceeded in the long con-

test that followed. The balloting continued without special incident until the 9th of June, the Republican vote, other than that cast for Conkling and Platt, varying from day to day. On the date mentioned, S. H. Bradley, of Cattaraugus County, made a personal explanation in the Assembly, in which he charged Loren B. Sessions, of the Senate, with offering him the sum of \$2,000 to cast his vote for Chauncey M. Depew. The candidacy of Mr. Jacobs, on the part of the Democrats, had been the subject of some criticism, on account of the fact that he was a member of the Legislature, and after the twenty-third ballot, which took place on the 22d of June, he withdrew. A caucus was held the same day, and after explanations from Mr. Jacobs and others, the name of Clarkson N. Potter was substituted. The vote on the twenty-fifth ballot stood as follows: For the short-term vacancy, Potter, 53; William A. Wheeler, 50; Roscoe Conkling, 32; Elbridge G. Lapham, 17; George G. Hoskins, 3, and Charles J. Folger, 1; for the long-term vacancy, Francis Kernan, 53; Chauncey M. Depew, 52; Thomas C. Platt, 27; A. B. Cornell, 7; Richard Crowley, 6; George G. Hoskins, 5; Elbridge G. Lapham, 3, and Henry E. Tremaine, 1. After the thirty-first ballot, which took place July 1st, Mr. Platt withdrew from the contest, the vote standing then for the place which he had vacated—Kernan, 53; Depew, 51; Platt, 28; Cornell, 11; Crowley, 7; Lapham, 2; Tremaine, 1, and Wheeler, 1. His vote was immediately scattered, the larger part of it going at first to Crowley. An effort was made at this time to secure a conference of Republican members, and sixty-two signatures were obtained to the following "call":

Whereas, More than four weeks have been spent in a vain attempt to elect two United States Senators to fill the vacancies occasioned by the resignation of the Hon. Roscoe Conkling and the Hon. Thomas C. Platt; and

Whereas, We believe it to be our imperative duty, demanded alike by the interests of members of this Legislature and by the interests of the whole people, speedily to fill said vacancies: therefore

We, the undersigned, Republican members of the Legislature, do hereby agree that when sixty-five or more Republican members of the Legislature shall have signed this paper we will attend a conference of such signers, together with all other Republican members who may join us, and at such conference proceed to vote *viva voce* for candidates to fill said vacancies; and when two candidates shall have each received fifty-four votes cast in said conference, sixty-five or more voting, we will make said candidates so receiving such number of votes our candidates at the next and each succeeding meeting of the joint Assembly until the said candidates shall be elected, provided one candidate shall be selected from each of the two principal divisions of the Republican party.

Said conference shall be held at the Assembly Chamber at the call of the first five signers of this paper, and invitations to attend said conference shall be extended to all Republican members of the Legislature, whether their names appear hereon or not.

The conference, at which sixty-seven members were present, was held on the 8th of July, forty-one ballots having then been taken. Mr.

Depew withdrew his name and declined to be a candidate, taking occasion to repel various charges and accusations that had been made in regard to his position and conduct. Five ballots were taken in the caucus for a candidate for the position vacated by Mr. Conkling, which finally resulted in a union of all the votes on Mr. Warner Miller. Elbridge G. Lapham was nominated for the place vacated by Mr. Platt, receiving thirty-eight of the sixty-six votes cast on the first ballot. The original supporters of Conkling and Platt for re-election took no part in the conference, and refused to vote for the candidates on the ballottings which followed in the joint session of the two Houses. The vote on the forty-second ballot for the short-term vacancy was: Lapham, 67; Potter, 50; Conkling, 31, and Cornell, 1; total, 149; necessary for a choice, 75; for the long-term vacancy: Miller, 68; Kernan, 50; Wheeler, 19; Rogers, 4; Cornell, 1, and seven "scattering." The voting continued in the same spirit until July 17th, when, on the forty-eighth ballot, Speaker Sharpe, of the Assembly, declared his purpose of voting for the conference candidates. The result of the vote on that day was for Conkling's former seat: Lapham, 68; Conkling, 29; Potter, 47, and Evarts, 1; for Platt's place Miller received seventy-six votes, including those of one Senator and seven Assemblymen who had hitherto acted with the "Stalwarts"; Kernan's vote was forty-seven, and the rest of the Republican votes were scattered among nine candidates, Fish receiving nine and Wheeler four. Miller was declared elected. The contest in behalf of Conkling was kept up some days longer, and an attempt was made by his supporters to secure an adjournment, and the consequent postponement of the election to the next session. Finally, on the 22d of July, the "Stalwarts," in conference, adopted the following resolution:

Resolved, If a conference of the Republicans in the Legislature be called without stating the purpose of such conference, that all attend the same; that in conference we take a stand for a caucus, to be held at some future time, for the purpose of nominating a United States Senator; that if such demand for a caucus at a future time be conceded, we attend the same, and if properly and duly held will abide the result; that if such demand is not conceded, we retire from the conference.

This having been adopted as an expression of the determination reached, a more definite form was given to the action by the following:

Resolved, To be the sense of this conference that Senators Winslow and Braman be requested to see and agree with Judge Robertson that if he will announce to the meeting of the joint convention to-day that a conference of all Republicans is called for this afternoon or evening, for the purpose of nominating a candidate for United States Senator, we agree to attend said conference or caucus and abide by the result of such nomination.

Accordingly, after the first ballot of that day, a recess was taken, and Senator Robert-

son, the presiding officer of the joint Assembly, announced that a conference of Republicans would be held immediately. After some discussion as to the means of bringing about a "regular caucus," it was voted to adjourn and "meet in caucus" at three o'clock, for the purpose of nominating a candidate for United States Senator. The "Stalwarts" took part in the caucus, and the vote for candidate was: Lapham, 61; Conkling, 28; Evarts, 1; and Stewart L. Woodford, 1. The nomination of Lapham was then made unanimous on motion of Senator Winslow, who had been a prominent supporter of Conkling. The joint Assembly resumed its session at 5 p.m., and the fifty-sixth ballot on the election of a successor of Senator Conkling was taken, resulting in ninety-two votes for Lapham and forty-two for Potter.

WARNER MILLER was born in Oswego County, August 12, 1838, his parents being of German extraction. He was educated in the public schools of his native county, and passed through Union College, graduating in 1860. He then engaged in teaching at the Fort Edward Collegiate Institute, but on the breaking out of the civil war enlisted as a private in the Fifth New York Cavalry. Serving under Sheridan in the Shenandoah Valley, he was promoted to a lieutenant. After the battle of Winchester he was taken prisoner and paroled on the field, and soon after received an honorable discharge from the army and went to Europe. There he became interested in the subject of paper-manufacture, and on his return established a manufactory at Herkimer. In this business he has continued to the present time. His first active participation in politics was in 1872, when he was a delegate to the National Republican Convention at Philadelphia. He was elected to the State Assembly in 1874, and re-elected in 1875. In 1878 he became a candidate for Congress in the Twenty-second District, which included the counties of Herkimer, Jefferson, and Lewis. He was elected in November of that year, and re-elected to the Forty-seventh Congress in 1880.

ELBRIDGE G. LAPHAM was born at Farmington, New York, October 18, 1814. His early life was spent on a farm, and his education was obtained in the common schools and at the Canandaigua Academy, where he was a classmate of Stephen A. Douglas. After leaving the academy he studied civil engineering, and was for a time employed as a civil engineer on the Michigan Southern Railroad. Relinquishing that employment, he studied law, and was admitted to the bar in 1844, soon after which he settled at Canandaigua, where he still resides. In 1867 he was a member of the New York Constitutional Convention, but was never a candidate for a political office until 1874, when he was nominated and elected as Representative of the Twenty-seventh District in Congress. He was successively re-elected in

1876, 1878, and 1880. In Congress he has been regarded as a careful and conscientious rather than a brilliant legislator, and in politics was in general sympathy with the Conkling wing of the party.

The charge of bribery made by Assemblyman Bradley against Senator Sessions, to which reference has been made, led to an investigation by a committee of the Assembly, the result of which was reported by the Republican majority and the Democratic minority of the committee on the 5th of July. In the mean time Mr. Sessions and others had been indicted for bribery by the Grand Jury of Albany County. The report of the majority of the committee was short, the following being all but the introductory part:

Eminent counsel appeared for and in behalf of the persons charged by Mr. Bradley with making the proposition to him, and the committee was represented by able counsel, to whom was intrusted the conduct of the inquiry into all the matters that were brought to the attention of the committee. The investigation extended through a period of about two weeks, and the printed report of the testimony taken and the proceedings had formed a volume of 500 pages, which accompany this report. The testimony of Mr. Bradley was direct and positive, and he unequivocally charged that on the 8th day of June last he was approached by the Hon. Loren B. Sessions, a member of the present Senate of this State, who at the same time offered and paid to him the sum of \$2,000 for the purpose of influencing and inducing him to change his vote for United States Senator and to cast his vote for Chauncey M. Depew for said office. The denial of Mr. Sessions was as definite as the charge of Mr. Bradley, and his testimony in support thereof was equally positive. The remaining evidence in the case is circumstantial. Besides the testimony relating to the charge preferred by Mr. Bradley, evidence was adduced upon the investigation tending to prove that active members of the Assembly had been approached by one Charles A. Edwards, with corrupt proposals and offers of money, for the purpose of influencing their votes for Chauncey M. Depew for United States Senator. During a portion of the time that the investigation was in progress the District Attorney of the County of Albany was present and heard the testimony, being the officer especially charged by the Constitution and laws of the State with the prosecution of the said persons charged with the offense of attempt to bribe. He instituted proceedings against such persons as soon as practicable.

After the examination of the witnesses who were produced and sworn before the committee, and before the proceedings and testimony were printed and furnished to the committee and an opportunity was given them to examine it for the purpose of reporting thereon, Senator Sessions and Charles A. Edwards, who were charged with the crime, and others were severally indicted by a Grand Jury of the County of Albany, upon which indictment they were arraigned and handed over for a trial in the Court of Sessions of said county, a court having jurisdiction in the premises. Official information of the finding of the bills of indictment and the subsequent proceedings taken as above stated was furnished to the committee by the said district attorney, as will appear from the following communication, viz.:

"CITY OF ALBANY, DISTRICT ATTORNEY'S OFFICE,
June 30, 1881.

"DEAR SIR: In response to your request to be informed as to whether the newspaper reports to the effect that Senator Sessions, A. D. Barber, E. R. Phelps, and Charles A. Edwards have been indicted for attempted bribery of members of the Legislature

are true or not, I would say that those reports are correct; that they have been arraigned, pleaded not guilty, and have given bail. They will be tried as soon as I can properly prepare their cases for trial.

"Very respectfully, yours,

"D. CADY HERRICK, District Attorney."

The courts having taken cognizance of the offenses charged to have been committed, and which are the same that the committee was required to investigate, the committee is of the opinion that, without further instructions from the Assembly, it would be improper and unwise for them to prejudice the cases by rendering or submitting to the Assembly a decision upon the evidence that has been taken therein, and therefore they submit with this report the evidence and proceedings taken on such investigation for the consideration of the Assembly. From the nature of the resolution it may be well doubted if it were expected or intended that the committee should go further than to report the evidence and proceedings. It is not probable that at the time of the adoption of the resolution it was contemplated that immediate action would be taken by the courts in respect to the matters intrusted to the committee for investigation. The committee deem it proper to express the opinion that in view of the agitation and excitement that exist respecting the election of United States Senators, in connection with which the charges of bribery and attempt to bribe were made, any action or attempted action on the part of the committee, in advising or attempting to advise the Assembly in regard to the charges, would tend to embarrass the administration of justice; that it would not be just to the people or the accused, and that it would be disrespectful to the courts which have taken cognizance of all the criminal acts and offenses alleged to have been committed by the parties referred to or in any way implicated.

KIDDER M. SCOTT,
E. A. CARPENTER,
A. S. DRAPER,
CHARLES R. SKINNER,
T. BOARDMAN.

Dated July 5, 1881.

The minority report, which was signed by Assemblymen Brooks and Shanley, dealt with the subject more fully, presenting the substance of the evidence and announcing the following facts as established:

1. The positive use and misuse of money at Albany in connection with the election of two United States Senators in the canvass growing out of the resignation of Senators Conkling and Platt.

2. The presence in Albany of a large number of citizens, official and otherwise, State and Federal, intrusted and engaged in the election of two United States Senators by the State Legislature, to which body the Constitution and the laws commit the sole right of elections. While there is no proof of the positive use of money by the so-called lobby to control the Legislature in the election of Senators in Congress, there is evidence of undue influence of men holding both Federal and State offices to control this election, and this undue influence includes the almost constant presence of the Vice-President of the United States, and the almost constant presence of the two United States Senators who resigned their places, one of whom, through thirty-one ballots, asked for a re-election from the Legislature which gave him his first election. The presence of other candidates has also been conspicuous from the beginning.

3. The evidence also includes the fact that Senator Sessions, pending the election, drew from the banking-house of Spencer Trask & Co. \$6,616, and closed his accounts at this bank on the 17th of June. The sums of \$12,500, \$3,500, \$2,000, and \$20,000 were drawn by parties friendly to Mr. Depew, but no evidence was given that any part of the money here named, except the \$2,000 paid to Mr. Bradley, was

used for any corrupt purpose; nor is there any proof of any intention so to use it.

4. The promise was made of a high Federal office—that of United States Marshal within the District of New York—to one member of the Legislature to influence his vote for a Senator in Congress, the promise or expectation coming from a United States commissioner and United States supervisor of elections, John I. Davenport. It was made to State Senator Strahan, of New York city, at the Union League Club, on the night of the 18th of May, and was made to influence Mr. Strahan's vote in the election of Senators in Congress; but it is proper to state that when Mr. Davenport appeared before the committee he confined his so-called "authority" simply and solely to Mr. Knox, the friend of Senator Strahan, who was confirmed as marshal on the following day. It is also proper to state that Senator Strahan was not in any way moved from his purpose of action at Albany by any of the promises of Mr. Davenport in New York, whether they were genuine or not.

5. The apparent tender of money for legislation and the promise of money, in the case of three, if not four, members of the Assembly for votes or influence growing out of the election of Senators, was before the committee, but without any positive knowledge of the exhibition of money, though in one case it was presented in an envelope, bearing the name of Mr. Armstrong, of Oneida, and supposed to contain money, but this was to compensate him for his vote upon a bill which had passed the Legislature, and the offer was rejected. The testimony does not show one dollar received by any member of the Legislature or directly offered in the form of money for a vote for any candidate for Senator in Congress, except, as before stated, in the one case of Mr. Bradley, who, at page 10 of the testimony, swears that Mr. Sessions said, "I can get you a thousand dollars to put in your vest-pocket to vote for Mr. Depew"; who there listened to this enticement, talked about it, said it would be just as bad to vote for Chauncey M. Depew without getting any money as to get it, listened again to the temptation and statement, "I will go up-stairs and see what is the best I can do"; and from this temptation, by appointment with Mr. Sessions (pages 11 and 14), he went first to the room of Mr. Sessions, and then went up one story to his own room, where, the door being locked by Mr. Bradley, both men seated themselves, and the money was paid to him in three bills of \$500 each, and in ten bills of \$50 each. In the report of this interview there was no dispute, while Mr. Sessions (page 21), in regard to the money, swears "There was not one word said in relation to money at all, and that there never was any allusion made to money by him nor by me." What may also be called a mystery is the use of nearly \$50,000 in currency by men of established credit and with accounts in banks at Albany, New York, Utica, and Buffalo, and the carrying of large sums of money about the persons of their owners, instead of using either express companies for the transmission of money as between New York, Albany, and Buffalo, or the use of bank-checks, which business-men are accustomed to use in the transmission of money, and in all ordinary business transactions.

The following resolutions were also presented as proper for the approval of the Assembly:

Resolved, That it is in evidence before the select committee that Samuel H. Bradley, member of the Assembly from the First District of Cattaraugus County, was in possession of \$2,000, which sum of money, upon his own sworn statement alone, was placed in his hands on the 8th of June, 1881, in his own room at the Kenmore Hotel, by Loren B. Sessions, State Senator, representing the Thirty-second Senatorial District in the Legislature of 1880-'81, and composed of the counties of Cattaraugus and Chautauqua.

Resolved, That the receipt of this money by Mr. Bradley for his expected and promised vote for Chauncey M. Depew, a candidate before the Legislat-

ure for United States Senator, was in violation of the law of 1869 and of the State Constitution adopted in 1874, both of which make the receipt of money for the object or purpose named an offense defined as felony. The willing receipt of money for a vote in the Legislature, even for the alleged purpose of exposing the person offering the bribe, is not contemplated as an innocent act either by the provisions of the Constitution or by the laws of the State (chapter 742, passed in 1869) which particularized the act, the offense, and the punishment.

Resolved, That while it is in evidence that Senator Sessions has been accustomed to receive sums of money, and in one case as large a sum as \$500, for his work and influence in securing the passage of a single bill through the Legislature, and that before his election to the Senate he had the reputation of being what is commonly known and understood as a "lobbyist," the only evidence before the committee that \$2,000 was paid by him to Samuel H. Bradley for his expected and promised vote for Chauncey M. Depew, is the sworn statement of Mr. Bradley himself. No other evidence came before the committee that shows that any other sum of money was paid to, or received by, any other member of the Legislature.

Resolved, That in regard to the use of money pending the senatorial canvass, there is complete evidence of the fact that Mr. Sessions drew from his bankers—Messrs. Spencer Trask & Co.—the sum of \$6,616 in currency, and that nearly \$50,000, including this sum, was drawn and used by other parties friendly to Mr. Depew, but no evidence was offered that any part of this money was used to control or influence the choice of Senators. The parties drawing the money, so far as they became witnesses, swear that it was used in their own private business. It did not please the counsel on either side to call, as witnesses, Messrs. Barber, Edwards, or Phelps, whose names were most prominent in the use of the several sums of money named before the committee.

Resolved, That the testimony taken before the committee appointed by the Assembly on the 9th of June, 1881, be laid before the District Attorney and Grand Jury of the County of Albany for such examination and action as by them may be deemed necessary in the appointed trials to come before the court, and with the wish of the committee and of the Assembly that in every case, whenever and wherever there has been any violation of the law or of the Constitution, there may be a thorough prosecution of the same, and such punishment provided as is due for the crime committed.

The majority report, however, was adopted. The bribery case against Loren B. Sessions came up in the Albany Court of Sessions in September, but was continued to the next term, and in January, 1882, a motion was pending before Judge Westbrook, of the Supreme Court, at Kingston, for its transfer to the Court of Oyer and Terminer, a stay of proceedings having been previously ordered by Judge Ingalls.

The session of the Legislature came to an end on the 23d of July, the day after the senatorial elections were completed. The work had been greatly interrupted and many important measures were defeated. A peculiar characteristic of the session was the unusual number of bills which failed to receive the approval of the Governor. No less than eighty-six veto messages were submitted, expressing positive disapproval of measures which had passed both Houses, besides which a considerable number failed to receive the Governor's signature after the adjournment of the session. Among the more important of the vetoed bills was one

providing for a new aqueduct and an additional water-supply for the city of New York. Many of the others were of local importance only. The objections to the various bills took a wide range. Some were regarded as unnecessary, others as unconstitutional; some were loosely drawn, and many provided for expenditures which the Governor did not consider judicious. A large number of items in the annual supply bill were disapproved as extravagant or unjustifiable. One of the early incidents of the session was a reception of General Grant, while on a visit to Albany, in which the two Houses joined.

One of the most important subjects to come before the Legislature was that of completing the revision of the laws relating to assessment and taxation, which had been begun in 1880. A joint committee was appointed to take this in hand, consisting of five Senators and eight Assemblymen, and the Governor was authorized to appoint an advisory commission, of not more than seven nor less than three members, to aid in the work. To act upon this commission the Governor appointed Joshua M. Van Cott, of Kings County; Samuel D. Babcock, of New York; Thaddeus Hait, of Ulster; Edward W. Foster, of St. Lawrence; John F. Seymour, of Oneida; George Geddes, of Onondaga; and Alonzo Bradner, of Livingston—but Mr. Babcock declined to serve, and his place was taken by Andrew H. Green. The joint committee and the commission worked more or less in conjunction, but the latter body acted only in an advisory capacity, having no direct relations with the Legislature. The result of their joint efforts was the reporting of sixteen bills, only eight of which were passed: two were defeated in the Senate, and therefore abandoned in the Assembly; two were defeated in the Assembly, and not acted upon in the Senate; one was rejected by both Houses; and three which passed the Assembly failed to secure action in the Senate. Those which became laws were—1, one amending the law defining lands, and making it include railroad-tracks, telegraph poles and lines, underground pipes, etc.; 2, one amending the law for taxing corporations, so as to remove certain ambiguities in its meaning and difficulties in its execution, and making the tax for State purposes one on "franchises and business" instead of capital stock; 3, requiring supervisors to furnish the Comptroller with lists of corporations and joint-stock companies and associations; 4, making provision for the adjustment of the corporation tax in the city of New York, so as to avoid a double assessment; 5, exempting American vessels engaged in foreign commerce for a term of fifteen years; 6, taxing foreign bankers on their capital used in this State, and making the act for the assessment of bank shares conform to the judicial decisions in regard to deductions on account of debt; 7, relating to the Tax Commission in New York city; and, 8, providing for the

taxation of collateral inheritances and corporate trust mortgages. Among the defeated bills was one for "equalizing assessments and taxation," which was intended to make assessment reach all classes of personal property, and to prevent evasion; one providing for a revenue from a variety of business licenses; and others taxing brokers' sales, trust companies, savings-banks, and life insurance. The commission, after careful consideration, advised against an abolition of deduction for debt from the assessment of personal property. In making a report to the Governor of the results of their labors the members of the Advisory Commission stated that they had made no attempt to devise a complete and symmetrical system of taxation, but suggested that such an attempt ought to be made. They said: "The machinery of taxation should be carefully reconstructed and made more efficient, so as to reach every species of taxable property, and to more equally and justly apportion and collect its proper contribution. The various kinds of taxable property should be exactly defined. Exemptions for indebtedness should be abolished, or made uniform and equal as to every species of property. Mechanical and manufacturing industries should be carefully studied upon their statistics, with a view to their total or partial inclusion for, or exemption from, taxation. The data should be carefully collected for a wider imposition of excise taxes. Careful provision should be made to guard effectually against evasions of taxation, and to define what property and business of domestic corporations, outside of the State, are taxable. And, finally, after proper legislation embracing these various subjects has been perfected, the body of the tax laws should be codified, so as to be conveniently accessible to those charged with their administration."

A bill creating a Railroad Commission, substantially the same as that reported by the Hepburn Committee of 1879, was introduced in the Assembly by Mr. Duguid, and passed that body by a vote of 74 to 33. In the Senate it was held for several weeks by the Railroad Committee, and finally an adverse report was made. It was nevertheless taken up for consideration, but, after several spasmodic efforts had been made in its behalf, it was left without final action when the session closed.

The State canals occupied considerable attention. After some discussion a resolution was adopted in the Senate recommending the removal of all tolls from West-bound freight and putting salt on the free list. This recommendation was adopted by the Board of Canal Commissioners. After much discussion and two reconsiderations of adverse votes in the Senate, a resolution proposing an amendment of the Constitution abolishing all tolls and providing for the maintenance of the canals by taxation was finally adopted. Projects for enlarging and improving the Erie Canal, and one

for the construction of a railroad on the barge bank, were considered but not adopted.

The Western Union, American Union, and Atlantic and Pacific Telegraph Companies, having entered into an agreement which consolidated them all in the Western Union, and provided for a large increase of the stock of that corporation, an effort was made to prevent its consummation by legislative prohibition covering all similar schemes of consolidation. A bill for the purpose was passed in the Assembly, but action upon it was delayed in the Senate until the terms of the agreement had been carried into effect, and it was then abandoned altogether.

A subject which occupied considerable attention for a time was that of providing a new system of street-cleaning for the city of New York. This work had previously been under the charge of the police department of the city, but had been so unsatisfactorily done that a committee of twenty-one was appointed at a public meeting to secure a change of method. This committee prepared a bill, placing the work in immediate charge of the mayor, with power to appoint a superintendent and exercise full control. This was promptly passed by the Senate but was vigorously opposed in the Assembly, on the ground that it placed the control of appointments and employments in the hands of the mayor without restriction, and these might be used for political ends. A measure was finally passed, creating a Department of Street-Cleaning, under a commissioner to be appointed by the mayor and confirmed by the Board of Health of the city.

Efforts made to secure important amendments of the charter of New York city came to naught. All attempts to modify the excise laws also failed. A new penal code was adopted, and important amendments were made in the Code of Civil Procedure. Two bills were passed with a view to providing means for the support of the Emigration Commission. One of these established an inspection of immigrants at the port of New York, and the other provided for a tax of \$1 per head on all immigrants landed, to be collected from the steamship companies by the Commissioners of Emigration. The validity of this act was contested by the companies, and it was declared unconstitutional by the Circuit Court of the United States early in 1882. In his decision, Judge Blatchford took the ground that the inspection which States are authorized to exercise could apply only to imported merchandise, and the tax which they may levy to meet its expense could be placed only upon commodities. This legislation was therefore void, as interfering with the exclusive jurisdiction of the Federal Government over the regulation of foreign commerce.

Considerable dissatisfaction was felt with the results of the session, the effect of which was seen in the political canvass of the year. The revision of the tax laws, which had occupied a

good deal of attention for two years, was left very incomplete; nothing was done for the solution of the question of railroad regulation, and reform in the administration of the affairs of New York city was defeated. The political canvass may be said to have opened at the very beginning of the year, with the initial movements for the reorganization of the Democratic party in the city of New York. The defeat of the party in the State and consequently in the nation, in 1880, was by many attributed to the action of the Tammany organization, under the lead of Mr. John Kelly. A mass-meeting was held at the Cooper Institute, near the end of December of that year, to consider the subject of reorganization. Resolutions were adopted in favor of such a movement, and to carry it out a committee of fifty was chosen, which was subsequently increased to one hundred. A plan was reported in August which provided for elections in each of the Assembly districts of the city, the polling to be conducted in all the separate election districts, for the purpose of choosing local committees and delegates to the County Committee. The object was to base the organization on the action of the mass of the voters of the party, and take it out of the control of the "halls." The new organization was known as the County Democracy, and prepared to contend with both the Tammany Hall and the Irving Hall factions for recognition in the State Convention, and for the control of party interests in the city.

Out of the agitation for the regulation of railroads sprang an association known as the Anti-Monopoly League, which proposed to exercise an influence over the election of members of the next Legislature. A conference called by its officers was held at Utica on the 18th of August, at which an address to the people and a declaration of principles and purposes were adopted. The address set forth the evils and abuses that had sprung up in railroad management and the failure of the Legislature to provide a remedy for them, and was prefatory to the following:

We earnestly recommend that at the next election candidates for legislative office, and especially candidates for the Senate, be chosen regardless of party affiliations, and that only candidates who will pledge themselves to support the following anti-monopoly principles and objects should receive the suffrages of the people:

OUR PRINCIPLES.

Anti-monopoly: we advocate, and will support and defend, the rights of the many as against privileges for the few.

Corporations, the creations of the State, shall be controlled by the State.

Labor and capital: allies, not enemies; justice for both.

OBJECTS.

In accordance with these general principles we will endeavor to secure, among others, the following specific results:

1. Laws compelling transportation companies to base charges upon cost and risk of service, instead of the new theory enunciated by them, "what the traffic will bear."

2. Laws to prevent pooling and combinations.

3. No discrimination against any citizen or any class of citizens on public highways.

4. A Board of Railroad Commissioners for this State, to give effect to the laws which are or may be placed upon the statute-books.

5. Laws making it the duty of public law officers to defend a citizen's rights against injustice by powerful corporations.

6. Laws to prevent the further watering of stock and other devices, by which a fictitious value for public highways is created.

7. Stringent laws against bribery, including the prohibition of free passes.

8. Amendments to our election laws which will better secure to the people the power to select candidates for office.

9. A liberal policy toward our canals, which, during the season of navigation, are potent in preventing exorbitant charges by railroads.

10. Laws providing for the restriction within proper limits of corporate powers and privileges generally, and for the protection, education, and elevation of the masses.

Resolved, That in order to give effect to and enforce the observance of these principles and objects, an organization of the people on a non-partisan basis is absolutely necessary; that in every Assembly district farmers' alliances or anti-monopoly leagues should be organized; that we advise the voters of the State of New York in the coming fall election to vote only for such legislators as will openly pledge themselves to vote for a Board of Railroad Commissioners for the State of New York, and also to sustain generally the principles of the so-called "Hepburn bill."

Resolved, That we make no war upon corporations as such, nor upon any legitimate interest or industry, but that experience has shown that such organization is necessary to resist the aggressions of corporate monopolies and to maintain the public rights as expressed in the Constitution and interpreted by the Supreme Court of the United States, and for this object we pledge our earnest efforts regardless of party affiliations.

Resolved, That the discriminations of the railroads, the improvement of the Mississippi River, and the enlargement of the Canadian canals all admonish the people of this State that their canals should be modernized and made equal to any competition which they may have to sustain; and we therefore declare that the water-ways of the State should be enlarged and made free of tolls.

Resolved, That the State, having delegated to railroad and telegraph corporations its duty of maintaining public highways and intercommunication among the people, is bound to control said corporations in the interests of the public, or reassume the functions so delegated; that the direct tendency of the abuses in our transportation system is to nullify the principle upon which our government is founded; that instead of the distribution of wealth, they tend to make a few very rich and the many poor; that the feudalistic tendencies of the age are very marked, and prompt and vigorous efforts are necessary to check this rapidly growing evil.

Resolved, That the American public, and especially the people of this State, are not yet ready to acknowledge that there is a dominant privileged class, to which all the rest of the community must pay tribute; that every barrel of flour, every gallon of petroleum, every ton of coal, and other necessities of life must be depreciated to the producer or unduly enhanced to the consumer, in order that the few may live in undue luxury at the expense of the many. We have faith that the intelligence and patriotism of the American people will be equal to the emergency of controlling the creatures of their creation, and we invoke the influence of every good citizen, and we will organize and work to this end.

The Greenback party held a convention at

Elmira on the 24th of August, nominated a State ticket, adopted a platform, and chose the members of a new State Committee. The candidates nominated were: for Secretary of State, Epenetus Howe, of Tompkins County; for Comptroller, John Hooper, of New York; for Attorney-General, Dennis C. Feeley, of Rochester; for Treasurer, Allen C. Wood, of Steuben County; for State Engineer, James H. Gould, of Cattaraugus County; for Judge of the Court of Appeals, Lawrence G. McParlin, of Lockport.

After a preamble denouncing the conduct of the other parties in dealing with public interests, and approving the platform of the National Greenback-Labor party adopted at Chicago, June 9, 1880, the following was adopted as a fresh declaration of principles:

1. That all money paid to railroad companies for transporting persons or property in excess of what is required to pay the legitimate expenses of operating such roads and a fair return on their actual cost, is in violation of the fundamental law of public use which allows railroads to be built, and should immediately be prohibited by legislative enactment.

2. That railroad companies should be prohibited by law from charging more for transporting property during the season when water navigation is closed than they charge for like services during the season of open-water navigation.

3. That we work for the lawful suppression of any traffic or custom that encourages crime.

4. That this convention recognizes the National Greenback party as the original anti-monopoly organization of the country, and, as such, extends the hand of sympathy to the anti-monopoly leagues for the public service they are rendering in educating the people on one of the questions contained for years in our platform.

Among the miscellaneous resolutions offered by various delegates, reported back by the committee on resolutions and adopted, were the following:

Resolved, That the Government should exchange its legal-tender notes for any of its interest-bearing debts at par on demand, and for gold or silver bullion or coin at their legal weight values.

Resolved, That we recognize the fact that all chief executive officers should have entire control of the selection and appointment of their assistants, to the end that the administrative machinery may work harmoniously; but, for the purpose of relieving both State and national politics from the odium of executive interference, we demand that all persons performing executive service for the State or General Government shall be deprived of the elective franchise during the period of such service.

Resolved, That we protest against the proposed sale of public lands in Minnesota, as advertised by the Secretaries of the Treasury and Interior, except to actual settlers, and in parcels not exceeding 120 acres.

Resolved, That as the Irish people are battling for the same rights that are gradually being wrested from us, we extend to them and all others our sympathy and aid, and bid them godspeed in their battle against tyranny.

The Republican canvass was materially affected by the senatorial contest of the spring and early summer, which had developed a degree of antagonism between what were variously known as the Conkling and anti-Conkling, the "Stalwart" and "Half-Breed," and the "Ma-

chine" and "Anti-machine" wings of the party. The State Committee, consisting of one member for each of the thirty-three congressional districts, held a meeting in New York city on the 31st of August. The majority of this body was made up of supporters of Mr. Conkling, and Thomas C. Platt was chosen for its chairman *pro tem*.—Chester A. Arthur, the regular chairman, being absent. A call was issued, designating New York city as the place and the 5th of October as the time for the State Convention, and presenting an apportionment of delegates, 496 in all, among the several counties. When the delegates gathered at New York on the eve of the convention, it was evident that the anti-Conkling element largely preponderated. The convention was held in the Academy of Music, and was largely attended. General George H. Sharpe proposed Frank Hiscock as temporary chairman, but he declined to have his name used, and Warner Miller was proposed by T. M. Pomeroy. The yeas and nays were demanded, and resulted in 298 affirmative to 190 negative votes, which was an indication of the relative strength of the Conkling and the anti-Conkling elements in the convention. Mr. Miller delivered an address on what he regarded as the questions of the time, and committees on credentials, resolutions, and permanent organization were appointed by the Chair, after General Sharpe had presented a list of members for the first-named committee for the purpose of making an explanation in behalf of himself and his "Stalwart" associates. There were several contesting delegations, and the report of the committee on credentials resulted in unseating 23 Conkling men and seating 19 anti-Conkling men. The report of the committee on permanent organization, which was adopted without opposition, made Chauncey M. Depew the permanent chairman. The nominations were then made, as follows: For Secretary of State, General Joseph B. Carr, of Rensselaer County; for Comptroller, Ira Davenport, of Steuben County; for Attorney-General, Leslie W. Russell, of St. Lawrence County; for State Treasurer, General James W. Husted, of Westchester; for State Engineer and Surveyor, Silas Seymour, of Saratoga County; for Judge of the Court of Appeals, Francis M. Finch, of Tompkins County.

The following platform was adopted:

The Republicans of New York declare as follows:

1. That we unite with our fellow-citizens throughout the Union in deploring the incalculable calamity which has befallen the country in the death of the late President, James Abram Garfield. Under the kindly influence of American institutions, and by the force of noble manhood, he rose from the humblest walk of life to the highest earthly station. By manliness and gentleness of nature; by loftiness of public spirit and disciplined intelligence for public affairs; by strength of political conviction, blended with singular moderation of temper and urbanity of expression—above all, by that rare and noble temper which dares to be just, and which alone composes angry states, reconciles parties, and secures wise reform—he

was singularly fitted for the great office to which he was elevated by the free choice of his fellow-citizens. The opening of his Administration had won the confidence of the country by completing the refunding of the public debt, by exposing a vast system of public robbery, and by hastening the prosecution of the robbers, by its frank declaration of the intention to ask the aid of Congress to restore the conduct of the public business to business principles, and by its triumphant vindication of the constitutional authority of the executive office. Suddenly stricken by a mortal blow, he lay face to face with death for eighty days, with such sublime serenity of courage, unquailing faith, cheerful patience, and gracious courtesy, that the heart of Christendom beat with sympathy and admiration, and brought every nation to our side as friends and brothers. Already his name shines among the world's heroes, and it is written upon American hearts with the names of Washington and Lincoln. Cherishing the memory of his brave, simple, manly character, inspired by his lofty aims and unsullied life, and impressively warned by the circumstances of his assassination, we pledge ourselves anew to the great national objects to which the late President was devoted, and which are now bequeathed to the party that he so patriotically served, and of whose name and fame he was so justly proud. We respectfully offer to the venerable mother, the devoted wife, and the bereaved children of the late President the assurance of our deep and tender sympathy in a sorrow which only divine power can console, but which has all the alleviation that the spotless memory of the dead, the tearful gratitude of the country, and the sincere grief of the world can afford.

2. That we have entire confidence in the ability, integrity, and patriotic intentions of Chester A. Arthur, President of the United States; that his lifelong record gives earnest of his fidelity and devotion to the cause and principles of the Republican party; and, believing that he will carry out the views expressed by him in his inaugural address, and that his Administration will be in line with that of his lamented predecessor, in accord with the clearly defined principles and policy of the Republican party, and in harmony with the just expectations of those who gave him their suffrages for the high and responsible office to which he was elected, we tender to him our entire confidence and cordial support. His manly bearing and sympathetic acts in the time of national affliction command our respect and admiration.

3. That the triumphs of Republican management of the national finances are being constantly maintained, as shown by the payment of more than \$17,000,000 of public debt during the month of September, and by the reduction of the annual interest to less than \$82,000,000, while the surplus revenues justify the reduction of the taxes at an early day; and that this duty Congress should approach with due regard to the protection of American industry, and with the aim to reduce the number of tax-gatherers, and remove occasion for offensive and costly litigation.

4. That those who conspire to defraud the Government are the worst enemies of the party to which they belong, and the Republican party has among its strongest claims to popular gratitude the war which it has waged against the corruption which grew out of the expenditures consequent on the rebellion, the punishment which it has meted out to dishonest officials of whatever rank, and its persistent vigor in favor of economical and honest administration. The prosecution of the abuses connected with the Star Routes in the Post-Office Department redounds to the credit of President Garfield, and, in pressing the prosecution to the full satisfaction of justice, President Arthur may be assured of the hearty approval of the people.

5. That we pledge President Arthur our earnest support in every effort for the enforcement of civil-service reform, recognizing as we do the fact that abuses in connection with the dispensation of official patronage may be largely eliminated, if not wholly

removed, by wise and practicable methods of administration.

6. That the wisdom, prudence, and economy shown by Governor Alonzo B. Cornell, during his administration of the affairs of the State, entitle him to the thanks and gratitude of the people. His careful scrutiny of legislation, his judicious exercise of the veto power, his persistent enforcement of the principles of retrenchment, and his fearless discharge of all the duties of his office, have, in the development of the best qualities of practical statesmanship, vindicated the wisdom of his election.

7. That, as the Republican party has always been identified with whatever was deemed essential to the maintenance of the commercial supremacy of the State, we are in favor of submitting to the people the question of making our canals perfectly free.

8. That we are in favor of an equitable system of taxation that will reach corporations as well as individuals, and that we are opposed to all monopolies that oppress the people or unfairly discriminate against local interests.

An additional resolution in favor of the establishment of a Board of Railroad Commissioners was adopted; also the following:

Resolved, That we accept the conciliatory spirit that has characterized the proceedings of this body as a harbinger of enduring harmony and permanent success. The ticket nominated is made up of men of proved integrity and tested patriotism. They are deserving of popular confidence, and will discharge the duties of the several offices for which they are named with conscientious fidelity to the people and to the State.

An effort to secure a reorganization of the party in New York city under the direction of the State Central Committee was defeated. A new State Committee was chosen, the delegates from each district designating its representative. This placed the control of that body in the hands of the wing of the party which had directed the proceedings of the convention.

The Democratic State Committee held a meeting in New York city on the 7th of September, and decided upon the holding of a State Convention at Albany on the 11th of October, to be made up of three delegates from each Assembly district. The new organization in the city of New York had been completed, the practical work of the Committee of One Hundred being carried on by a sub-Committee of Twenty-One. Efforts to secure the co-operation of the Tammany Society had failed, and, when it was proposed in behalf of that body that the two organizations combine in sending delegates to the Albany Convention, answer was made by the following resolution, adopted by the General Committee of the County Democratic Association:

Resolved, That the chairman and secretary of the organization be instructed to reply, in substance, that in this organization no central committee or authority has anything whatever to do with the election of delegates to the State Convention; that the time has happily come when no committee can meet and deal with Tammany Hall, upon this or any kindred subject; that the Democrats throughout the city will meet and select delegates to the State Convention at primary meetings under a call as broad as the Democratic party; and the chairman and secretary are instructed to express the regrets felt by the County Committee

of the New York County Democracy that Tammany Hall did not, when invited to do so by the Committee of One Hundred in January last, co-operate with that committee in the creation of a popular organization of the party now representing it in the various districts throughout the city, and to express the hope that, when the Assembly district committees are next elected, Tammany Hall will show its desire for union and harmony in the party by urging all Democrats to go in together at the primaries, where union can alone be effected, and, not as before, refuse to participate in the creation of a united party organization.

A final report of the sub-Committee of Twenty-One, of which Abram S. Hewitt was chairman, was made on the 7th of October. It gave an account of the different steps taken, from the holding of the mass-meeting in December, 1880, until the final completion of the organization in these several Assembly districts and in the county of New York as a whole. When the convention met in Albany, on the 11th of October, the first day was occupied with the temporary organization and the appointment of committees. There were contesting delegations from all the New York districts, but those representing the County Democracy were placed on the preliminary rolls, and the committee on credentials, after a protracted hearing, reported in their favor on the second day of the convention. The chairman of the committee, in submitting the report, said: "After the hearing, the committee, by a unanimous vote, find that the gentlemen now occupying seats in this convention on the preliminary roll were entitled to permanent seats, by virtue of their regularity as delegates from the county of New York." This being adopted, both the Tammany and Irving Hall Associations were excluded from representation in the convention, and debarred from all claims to regularity as part of the Democratic organization of the State.

Erastus Brooks, of Richmond County, was chosen permanent chairman of the convention. The platform adopted was as follows:

The Democratic party of New York again declares its fidelity to the principles set forth by the New York State Democratic Conventions of 1874, 1875, and 1876, which were thrice approved at the ballot-boxes by the people of the Empire State, and were vindicated by the wise administrations of the Democratic State Executives then chosen, and to the principles set forth by the National Democratic Convention at St. Louis, which were approved by decisive popular and electoral majorities in the presidential election of 1876. The victories then won in this State and in the United States were in the name and for the sake of reform.

The people were defrauded of the fruits of victory in the Federal election by the false count of the electoral votes in 1876, and the flagrant corruption in the election of 1880. Reform throughout the Federal Administration is still a necessity. The continuing disclosures of new and hitherto concealed plundering of the people's funds by inner rings in the Treasury, the Post-Office, and the Interior Departments, demonstrate that reform is now more than ever a necessity.

It remains for the National Democratic party to restore the Federal Government to the fraternal spirit, the constitutional principles, the frugal expenditure, and the administrative purity of the fathers of the republic.

It remains likewise for the Democracy of the State of New York, and is their first political duty, to resume and carry on to a successful completion in all departments of its government the great measures and policy of administrative reform which, between 1874 and 1876, reduced by one half the burden of our State taxation, and which then, and during the three succeeding years, established throughout its executive departments vigor, economy, and fidelity to public trusts.

To that immediate duty this convention pledges the united efforts of the Democracy of New York, and the loyal devotion of the nominees whom it shall commend to the choice of their fellow-citizens.

The assassination of the late President of the United States was a crime against authority, against free institutions, and against humanity. We deplore and denounce the crime in all its public and private aspects. We extend, as citizens, our most profound condolence to the family of the murdered Chief Magistrate, and regard with great gratification the universal expressions of sympathy extended by all nations and peoples.

We renew the expression of our demand for the re-funding of the national debt at the lowest possible rate of interest.

The New York Democracy, as always, stands by gold and silver as the legal tender of the Constitution, and by the doctrine that all paper mediums of money must be based on those metals as the standard values of the world.

We demand the payment, principal and interest, of every dollar of public indebtedness.

"Readjustment" is repudiation. The act of the Northern Republican leaders, in giving the support of that party to repudiation in Virginia, Mississippi, Minnesota, and other States, is a national disgrace, dangerous as a precedent and destructive of the public credit.

We call upon the Democrats in Congress to maintain the standard of retrenchment by which their Democratic predecessors reduced the Federal expenses \$40,000,000 in a year.

We demand a thorough and immediate investigation into the Star Route and other frauds upon the Federal Treasury, and a vigorous prosecution, already too long delayed, of all the participants, both high and low, in these grave crimes, whereby the moneys of the people were stolen from the Treasury and the plunderers were made to provide a corruption fund, which was used to carry the last presidential election for the Republican party.

We indorse and applaud the united and honest action, for Democratic principles and candidates, of the fifty-four Democratic members of the last Legislature. They honored their State, their party, and themselves. We denounce the Republican majority, because that majority defeated every measure of transportation reform, at the bidding of its masters, the corporations. It enacted jobs directly increasing the public burdens by millions. It failed to meet the urgent question of assessment and taxation reform. It refused the demand of the State for a feasible and enforceable excise law. It left the farmers of New York, where the action of the Governor placed them, at the mercy of the oleomargarine ring. It struck hands, for political greed, with the abettors of disease and death in the metropolis. It prolonged the session of the Legislature far into the summer, at an aggregate expense of \$300,000 to the people. It became, in a factional struggle of placemen, the participant in scandals and crimes which brought dishonor and disgrace upon the good name of our State. When the Republican Legislature adjourned the people rejoiced, as if delivered from a pestilence, and the officers of the law were obliged to begin the work of prosecuting the briberies and perjuries committed by corrupt leaders of that party while plying their vocation in the capital of the State.

We are in favor of such a reform by legislative

enactment, as well as by administrative action, in the civil service of the country, as will substitute for the present periodical scramble for spoils, a wise system of appointment and promotion, by which the incumbency of subordinate offices shall be regulated by law and depend only upon capacity and character, and demand that no assessments shall be levied upon public officers for political purposes.

The public welfare demands that the various questions relating to chartered monopolies and the methods of transportation should be met and decided, and we are in favor of the adoption of measures to restrict the growing power of such monopolies. They should be subject to the supervision of commissioners established by public authority. All unjust discriminations in the transportation of passengers and merchandise should be prohibited. The charges of corporations which have taken the property of private citizens for public use, should be limited to the cost of service, with a reasonable profit, instead of the mercenary exaction of "all the traffic will bear." We approve of the unanimous action of the Democratic members of the last Legislature in providing for the early submission to the people of an amendment to the Constitution in favor of free canals.

The Democratic party, now and always unalterably opposed to centralization of power in either the State or Federal Governments, hereby requests its representatives in the Legislature to promote and make effective an amendment to the Constitution which shall extend the principle and the powers of local self-government to the cities of the State.

To the record of the Democracy of New York we point with confidence. We challenge a comparison of its record with that furnished by the factions which were once the Republican party of this State. To the candidates of this convention we pledge a hearty support, and we confidently submit our action, as the representatives of a free Democracy, to the good people of this Commonwealth for their verdict at the polls.

The candidates put in nomination were: For Secretary of State, William Purcell, of Monroe; for Comptroller, George H. Lapham, of Yates; for Attorney-General, Roswell A. Parmenter, of Rensselaer; for State Treasurer, Robert A. Maxwell, of Genesee; for State Engineer and Surveyor, Thomas Evershed, of Orleans; for Judge of Court of Appeals, Augustus Schoonmaker, Jr., of Ulster.

The election took place on the 8th of November. During the canvass considerable opposition had been displayed in the Republican ranks to James W. Husted, the candidate for Treasurer, and there had been numerous divisions in the nomination of candidates for members of the Legislature. The Anti-Monopoly League used its influence for or against legislative candidates, according to their position on the railroad question; and in New York city the various Democratic factions made separate nominations in several districts. The result of the vote for Secretary of State was 416,915 for Carr, 403,893 for Purcell, and 16,018 for Howe—total vote, 842,763; plurality of Republicans over Democrats, 13,022. The vote for Comptroller was slightly larger, the total being 843,107, and the Republican plurality 14,084. For Treasurer Mr. Husted was defeated; the total vote was 831,836; for Husted, 392,251; for Maxwell, 413,194; for Wood, 15,499—Maxwell's plurality, 20,943. The rest of the Republican ticket was elected.

Congressmen were chosen in four districts to fill vacancies. In the ninth district, New York city, John Hardy, Democrat, was elected over Thomas Murphy, Republican, by 5,308 plurality, for the seat made vacant by the death of Fernando Wood. In the eleventh, also in New York city, Roswell P. Flower, Democrat, was elected over William W. Astor, Republican, by 3,113, to the seat made vacant by the resignation of Levi P. Morton, appointed Minister to France. In the twenty-second, Charles R. Skinner, Republican, was elected over John Lansing, Democrat, by 3,154, to the seat made vacant by the resignation of Warner Miller, transferred to the United States Senate. In the twenty-seventh, James W. Wadsworth, Republican, was elected over James Faulkner, Democrat, by 2,486, to the seat vacated by E. G. Lapham, also transferred to the Senate. The Legislature chosen consisted of 17 Democrats and 15 Republicans in the Senate, and 67 Democrats and 61 Republicans in the Assembly, giving the Democrats a majority in both branches for the first time in twelve years. Three of the Democratic Senators and 8 of the Democratic Assemblymen had been elected in New York city as candidates of the Tammany Society, which gave that body the balance of power between the two regular parties in the Legislature of 1882. An incident of some interest in the election was the choice of Mr. Seth Low for Mayor of Brooklyn. Amendments in the charter of that city gave the mayor full power to appoint and remove the heads of all departments in the municipal administration, and a vigorous effort was made to secure the election of a man who would exercise this power independently, and without subserviency to any political organization. Mr. Low was the candidate selected with this view by independents of all parties, and he received the support of the Republicans, their regular candidate having withdrawn.

The following statement exhibits the finances of the State for the year ending September 30, 1881:

Aggregate balances October 1, 1880.....	\$3,448,215 88
Aggregate receipts during the fiscal year.....	14,940,403 90
Total.....	\$18,388,619 28
Payments during the year.....	12,856,760 67
Balance September 30, 1881.....	\$5,531,858 71
Receipts on account of the general fund during the year.....	8,751,034 80
Payments.....	6,986,870 61
Apparent surplus.....	\$1,764,664 79
Balances due from county treasurers on State tax of 1880.....	247,025 47
Amount paid on account of 1881, included in tax levy payable in 1882.....	1,021,272 51
Total surplus.....	\$3,032,962 77
Deduct balances of 1880, appropriations unpaid.....	583,347 50
Actual surplus September 30, 1881.....	\$2,499,615 27

On the 30th of September, 1880, the total funded debt was \$9,114,054.87, classified as general fund, Indian annuities, canal and bounty debt, viz.:

General fund (Indian annuities).....	\$122,694 87
Canal.....	8,983,360 00
Bounty.....	3,000 00
Total.....	\$9,114,054 87

On the 30th of September, 1881, the total funded debt was \$9,109,054.87, classified as follows:

General fund (Indian annuities).....	\$122,694 87
Canal.....	8,983,360 00
Bounty.....	3,000 00
Total.....	\$9,109,054 87
Balance in the canal sinking-fund.....	2,422,981 57
Canal debt unprovided for.....	6,560,373 43
State debt September 30, 1880, after deducting the unapplied balances of the sinking-funds.	7,059,574 70
On September 30, 1881.....	6,633,073 30
Net contributions to sinking-fund.....	\$376,501 40
Actual reduction of the debt by cancellation..	5,000 00

The assessed value of property in the State is \$2,681,257,606, of which \$2,340,335,690 is real estate, and \$340,921,916 personal property. According to competent authority, the actual value of personal property does not differ materially from that of real estate in any industrial or commercial community, and the apparent disparity is due to the imperfect assessment of the former. The rate of taxation for State purposes for the fiscal year 1881-'82 is 2½ mills on the dollar, of which 1⅙ mills is for schools, ⅙ for general purposes, and ⅙ for canals. The yield of the State tax, if fully collected, will be \$6,032,829.61. The rate of taxation is the lowest since 1856. The year was a very unfavorable one for the State canals, owing in part to a falling off in the bulk of grain transportation from the West, and in part to the unusual competition between the trunk-lines of railroads, which reduced their rates far below the normal level. In 1880 there were 6,457,656 tons moved on the canals; in 1881 only 5,175,505. The rates were also lower than usual—4⅙ cents per bushel for corn, and 4⅙ for wheat. Deducting State tolls, 1⅙ cents for wheat and ⅙ for corn, the return for the carrier was but \$1.28 per ton from Buffalo to New York. The westward movement, notwithstanding the removal of tolls, was only 1,365,418 tons against 1,518,290 in 1880. The revenues of the canals amounted to \$818,264.61, while the expenses were \$1,023,907.06.

On the 31st of December, 1880, there were 161 fire-insurance companies doing business in the State, of which 86 were New York State companies, 53 of other States, and 22 foreign, with total assets of \$146,398,641; liabilities, including capital stock, \$97,784,334, and net surplus, \$48,614,307. These companies received during the year a gross cash income of \$66,420,034, and their gross cash expenditure was \$60,925,644. During the year six other State and three foreign fire-insurance companies were admitted to transact business in this State. Four New York fire-insurance companies discontinued business and re-insured their risks, and three other State companies withdrew their agencies and ceased to do business

in the State. Twelve life-insurance companies, organized under the laws of New York, were in operation, with aggregate assets of \$214,647,574; liabilities, \$177,357,829; surplus, \$37,289,744. Of other State life-insurance companies, 18 were conducting business in this State, having assets of \$203,303,435; liabilities, \$169,031,510; and surplus to policy-holders, \$34,271,925. Of marine-insurance companies, 18 were transacting business in this State; of which 10 were foreign, 6 New York, and 2 other State companies, with assets amounting to \$21,315,263, and a net surplus of \$4,443,177. There were also two New York and two other State casualty companies, doing business, with \$2,112,022 assets, and \$843,004 surplus. Securities for the protection of policy-holders insured by the various insurance companies doing business in this State, of the kind and amount required by statute, were held on deposit by the Insurance Department on the 31st of December, 1880, as follows:

New York State Life.....	\$3,977,560
New York Casualty.....	201,426
New York Fire.....	1,562,000
Other State Fire.....	20,100
Foreign.....	7,060,000
Aggregate.....	\$12,821,086

On October 1, 1881, 72 banks of discount and deposit were engaged in active business, under the provisions of the State banking laws, and their condition was as follows:

Resources.....	\$113,463,572
Capital.....	19,025,700
Surplus and profits.....	8,923,175
Due depositors.....	75,717,130
Other liabilities.....	9,792,567

During the year deposits increased \$13,921,357; profits, \$869,895; loans and discounts, \$11,242,376. The net aggregate increase in assets was \$13,612,817. Five new banking associations organized during the year, and one changed from a State to a National bank; leaving four as the net increase in number of associations.

One hundred and twenty-eight savings-banks reported July 1, 1881; 11 of which were in process of voluntary liquidation and did not receive deposits. No savings-bank closed during the year. In July a certificate of authorization was granted for a savings-bank in Buffalo, that being the only one organized since 1875. The condition of the savings-banks on July 1st was as follows:

Resources.....	\$424,204,808
Due depositors.....	370,672,297
Surplus.....	53,303,883
Other liabilities.....	229,127
Number of open accounts.....	995,742

The increase in the several items during the year was as follows:

Resources.....	\$47,993,568
Deposits.....	85,210,727
Surplus.....	12,759,929
Open accounts.....	82,379

There are thirteen trust, loan, and mortgage companies in operation in the State, owning \$130,000,000 assets. The aggregate capital em-

ployed is \$12,000,000. During the year one new trust company organized. There are ten corporations for the safe-keeping and guaranteeing of personal property, two of which organized during the year; the capital invested being \$1,976,900.

The total amount of salt inspected on the Onondaga salt springs reservation for the fiscal year ending September 30th, was 7,633,-394 bushels, and the financial operations of the agency were as follows:

Duties collected.....	\$76,334 47
Penalties, rents, and sales.....	130 00
Total receipts.....	\$76,464 47
Expenses incurred.....	59,470 24
Surplus revenue.....	\$16,994 23

The following are the common-school statistics for the year ending September 30th:

Total receipts.....	\$11,984,715 03
Total expenditures.....	10,508,802 40
Amount paid for teachers' wages.....	7,775,505 22
Amount paid for school-houses, repairs, furniture, etc.....	1,467,361 00
Estimated value of school-houses and sites.....	31,091,630 00
Number of school-houses.....	11,894
Number of school districts, exclusive of cities.....	11,248
Number of teachers employed for the legal term of school.....	20,728
Number of teachers employed during any portion of the year.....	80,326
Number of children attending public schools.....	1,021,282
Number of persons attending normal schools.....	5,944
Number of children of school age in private schools.....	108,309
Number of volumes in school-district libraries.....	707,155
Number of persons in the State between the ages of five and twenty-one years.....	1,662,818

Reports received by the Regents of the University were from 22 literary colleges, comprising 388 instructors, 4,389 students, and representing property to the amount of \$17,240,400; also returns from 236 acaedemical institutions, with 1,182 instructors and 31,036 pupils.

For the first time in their history, the State Prisons were self-sustaining during the year. The earnings of the convicts were sufficient for current expenses, leaving a small balance to the credit of the prisons. The average number of prisoners confined at Auburn, Clinton, and Sing Sing, in the last four years, was as follows:

1878.....	3,379	1880.....	2,970
1879.....	3,062	1881.....	2,997

The following statement shows the amount of the earnings and expenditures on account of the several prisons for the fiscal year:

SING SING.			
Earnings.....		\$229,254 14	
Expenses.....		187,127 20	
Surplus.....		\$42,126 94	
AUBURN.			
Earnings.....	\$113,658 63		
Expenses.....	118,781 85		
Deficiency.....		\$5,123 22	
CLINTON.			
Earnings.....	\$61,443 14		
Expenses.....	97,882 51		
Deficiency.....		36,439 37	
		\$41,562 59	
Actual surplus for the year.....		\$564 35	

The average number of inmates in the Elmira Reformatory was 493. The cost of maintenance was \$40,860.37. Thirty acres of land have been purchased for \$3,000, within the corporate limits of the city of Hudson, for a House of Refuge for Women, and \$100,000 has been appropriated for the establishment of the institution. Expenditures in behalf of the institutions under the supervision of the State Board of Charities amounted to \$9,360,300, derived from the following sources:

State of New York.....	\$913,044
Cities and counties.....	4,707,314
Labor of inmates.....	126,978
Paying patients.....	268,669
Donations.....	1,152,754
Income of invested funds.....	379,216
Loans.....	663,392
Non-enumerated sources.....	1,148,933
Total.....	\$9,360,300

Expenses were divided as follows:

State institutions.....	\$1,571,641
County poor-houses.....	1,170,842
City almshouses.....	1,117,873
Orphan asylums and other homes.....	4,035,835
Hospitals.....	1,302,158
Dispensaries.....	161,946
Total.....	\$9,360,300

The constantly increasing number of insane persons is exhibited by the following statement of the number of inmates of the various State and local asylums, poor-houses, and private asylums, for the past five years:

October 1, 1881.....	10,059
" 1880.....	9,537
" 1879.....	9,015
" 1878.....	8,781
" 1877.....	7,921

The new Asylum for the Insane at Binghamton has been brought into use during the past year, and contains a considerable number of patients.

The number of inmigrants landed at Castle Garden from January 1st to December 10th was 423,350, and the estimated number at the close of the year was 440,000. The number of arrivals during each of the last ten years was:

YEARS.	Number.	YEARS.	Number.
1872.....	294,581	1877.....	54,536
1873.....	266,818	1878.....	75,347
1874.....	140,041	1879.....	135,070
1875.....	84,560	1880.....	327,371
1876.....	68,264	1881, about.....	440,000

The work of the State Board of Health in abating nuisances, improving the sanitary condition of various localities, diffusing useful information, and promoting the establishment of local organizations, has been of great and generally acknowledged value.

The State Capitol is still unfinished, though it is occupied by the Legislature and executive officers. There was paid on its account during the fiscal year ending September 30th, \$1,392,-328.75, and from October 1st to the end of the year \$250,000 was advanced to the commissioners. Of this structure, the State Comptroller, in his annual report, says: "With the

expenditure of this last amount [\$210,000 remaining subject to the draft of the commissioners], the 'magnificent fraud,' as some one has aptly termed it, will have cost the taxpayers of the State, in round numbers, \$13,000,000, and the end is not yet. At the present rate of expenditure its total cost when completed will fully reach \$20,000,000, and when completed it will not meet the wants for which it was intended. Three fifths of the building are taken up in halls and corridors, and, although it covers more than three acres of ground, all the departments of the government cannot be accommodated within it, and one or two will be forced to remain in their present quarters. A great many of its lower rooms are dark and damp, and unwholesome; the acoustics of the Assembly chamber are so bad that it is almost impossible to hear any debate; the Court of Appeals hesitates to occupy the chamber assigned it on account of the wretched manner in which it is lighted. Add to this the fact that when completed it will be an annual burden of between \$150,000 and \$200,000 for care and repairs, and that another stone may crack or crumble in the arch of the Assembly and possibly precipitate the whole to the cellar below, and the people of this State have a monument of folly, whose greatest good will be as a warning to future generations to plan well, and to calculate well the cost before building."

A site for an agricultural-experiment station has been selected near the village of Geneva, in Ontario County. Efforts looking to the holding of an International Exhibition in the city of New York have been suspended, but not definitely abandoned. On the 22d of January the obelisk, known as "Cleopatra's Needle," which was presented to the United States Government by the Khedive of Egypt, and brought over by Lieutenant Gorringe of the navy, at the private expense of Mr. William H. Vanderbilt, was successfully placed in position in Central Park, New York.

Mayor Grace, of New York city, endeavored to exercise his power of removing three of the Police Commissioners for neglect of duty, the principal allegations against them relating to the cleaning of the streets. After a prolonged hearing he decided upon their removal in the latter part of August, but this action required the approval of the Governor in order to be effective. His approval was withheld on the ground that at the time the mayor's action was taken the power and responsibility of the Police Commissioners in the matter of street-cleaning had been taken away by the new law providing for a separate street-cleaning department.

An incident of some interest in the city of New York was the consolidation of the elevated railroad companies. For two years the roads had been operated by the Manhattan Railway Company under leases from the other two companies which owned the roads, namely, the New York and the Metropolitan Ele-

vated Railroad Companies. Under these leases the first-named company had agreed to pay all charges and expenses, including taxes and interest on bonds, amounting to about \$21,000,000, and to furnish dividends of 10 per cent on the capital stock of \$6,500,000 of each of the other companies. It had also issued and divided between those companies as a further consideration \$13,000,000 of stock of its own, although it had no road and had incurred no expense for construction or equipment, and this stock represented no outlay of capital. Early in this year the Manhattan Company was in default for taxes and dividends, and it was evident that it had assumed a burden which it could not carry. The Attorney-General began suit against it in May for the purpose of effecting its dissolution. The grounds alleged were insolvency, forfeiture of its charter before the leases of May, 1879, were entered into, and illegal action in making those leases, and in increasing the capital stock. In July this suit was abandoned in New York city, and a new one brought before Judge Westbrook, at Kingston, based on allegations of insolvency only. Receivers were appointed and placed in charge of the property and business of the elevated roads. All the companies were involved in litigation during the summer, and the stock was much depressed. The purpose of one of the suits was to recover from the Manhattan Company the property of the New York Company, on the ground that the terms and conditions of the lease had not been fulfilled. There were at the same time intimations of proceedings by the Manhattan for the recovery of its stock, or the par value thereof in money, from the other companies, on the ground that no consideration had been given for it. A decision rendered by Judge Westbrook on the 21st of October denied the claim of the New York Company for the recovery of its property, and intimated that there might be a valid counter-claim for the value of the Manhattan stock. Other decisions, one of them rendered by the United States Circuit Court, held the agreement and leases of May, 1879, valid as against the stockholders, and upheld the doctrine that the boards of direction had power to enter into and modify agreements without the express approval of stockholders. On the 22d of October the old agreement was modified so as to reduce the obligations and payments of the Manhattan Company, which had passed under a new control, and immediately afterward the receivers were discharged and the company's affairs placed in the keeping of its officers and directors. Subsequently still another compact was made whereby the Manhattan Company was to issue \$13,000,000 more of its own stock to be exchanged for that of the other companies, thus practically absorbing them and consolidating the entire system under an undivided control. Serious charges were made that the entire proceedings were virtually directed by

a combination of stock operators, and that the Attorney-General and Judge Westbrook had used their powers to promote the purposes of this combination. The latter was accused of shaping judicial action from first to last in its interest, and of giving important hearings and

rendering decisions in the private offices of the parties interested.

The following table gives the population of the State, by counties, as finally returned by the census of 1880, and as compared with the returns of 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Albany.....	154,890	133,052	Herkimer.....	42,669	39,929	Richmond.....	38,991	33,029
Allegany.....	41,310	40,314	Jefferson.....	66,103	65,415	Rockland.....	27,690	25,213
Broome.....	49,483	44,103	Kings.....	599,495	419,921	St. Lawrence....	85,997	84,326
Cattaraugus....	55,506	43,909	Lewis.....	31,416	25,699	Saratoga.....	55,156	51,529
Cayuga.....	65,081	59,550	Livingston....	39,562	38,309	Schenectady....	23,538	21,347
Chautauqua....	65,342	59,327	Madison.....	44,112	43,522	Schoharie.....	32,910	33,340
Chemung.....	43,065	35,251	Monroe.....	144,903	117,563	Schuyler.....	18,842	18,989
Chenango.....	39,891	40,564	Montgomery...	38,315	34,457	Seneca.....	29,278	27,823
Clinton.....	50,897	47,947	New York.....	1,206,299	942,292	Steuben.....	77,586	67,717
Columbia.....	47,928	47,044	Niagara.....	54,173	59,437	Suffolk.....	53,888	46,924
Cortland.....	25,825	25,173	Oneida.....	115,475	110,003	Sullivan.....	32,491	34,550
Delaware.....	42,721	42,972	Onondaga.....	117,593	104,183	Tioga.....	32,673	30,572
Dutchess.....	79,184	74,041	Ontario.....	49,541	45,108	Tompkins.....	34,445	33,178
Erle.....	219,884	178,699	Orange.....	83,220	80,902	Ulster.....	65,838	84,075
Essex.....	34,515	29,042	Orleans.....	30,128	27,689	Warren.....	25,179	22,592
Franklin.....	32,390	30,271	Oswego.....	77,911	77,941	Washington....	47,871	49,563
Fulton.....	30,985	27,064	Otsego.....	51,397	48,967	Wayne.....	51,700	47,710
Genesee.....	32,306	31,606	Putnam.....	15,181	15,420	Westchester....	108,988	131,348
Greene.....	32,695	31,332	Queens.....	90,574	73,503	Wyoming.....	30,907	29,164
Hamilton.....	3,923	2,960	Rensselaer....	115,328	99,549	Yates.....	21,087	19,595
The State.....							5,082,371	4,392,759

The total population of New York city, as finally returned by the census of 1880, is 1,206,299, including 727,629 native and 478,670 foreign-born. Of the native-born, 708,677 are white, and 18,952 colored. The cosmopolitan character of the population is shown by the following statement of countries of which the foreign-born are natives:

COUNTRIES.	Number.	COUNTRIES.	Number.
Africa.....	87	Italy.....	12,223
Asia.....	119	Japan.....	20
Atlantic Islands...	35	Luxemburg....	106
Australasia.....	175	Mexico.....	132
Austria.....	4,743	Norway.....	893
Bohemia.....	8,093	Portugal.....	66
British America....	7,024	Poland.....	9,020
Belgium.....	556	Russia.....	4,551
Central America....	17	Sandwich and Pacific islands....	59
China.....	747	Scotland.....	8,633
Cuba.....	1,644	South American islands....	427
Denmark.....	1,096	Spain.....	669
England.....	29,787	Sweden.....	3,194
Europe*.....	62	Switzerland...	4,545
France.....	9,910	Turkey.....	77
Germany.....	153,432	Wales.....	929
Greece.....	69	West Indies....	814
Greenland.....	7	Born at sea†....	93
Holland.....	1,860		
Hungary.....	4,101		
Ireland.....	198,595		

The population of the various wards of the city in 1880 was as follows:

WARDS.	Number.	WARDS.	Number.
1.....	17,923	13.....	37,797
2.....	1,608	14.....	30,171
3.....	3,582	15.....	31,382
4.....	20,996	16.....	54,188
5.....	15,845	17.....	104,337
6.....	20,196	18.....	66,611
7.....	50,066	19.....	153,191
8.....	35,879	20.....	86,015
9.....	54,596	21.....	66,536
10.....	47,554	22.....	111,606
11.....	63,778	23.....	28,338
12.....	31,800	24.....	13,288

The native-born citizens hail from the following States and Territories:

* Not stated. † Foreign.

STATE.	White.	Colored.	Total.
Alabama.....	364	47	411
Arkansas.....	25	7	32
Arizona.....	3	....	3
California.....	712	8	720
Colorado.....	50	....	50
Connecticut.....	8,473	253	8,726
Dakota.....	6	3	9
Delaware.....	268	166	434
District of Columbia.....	651	356	1,007
Florida.....	206	93	299
Georgia.....	876	963	1,244
Idaho.....	1	....	1
Illinois.....	1,402	12	1,414
Indiana.....	450	1	451
Indian Territory....	4	....	4
Iowa.....	233	7	240
Kansas.....	63	2	65
Kentucky.....	686	61	747
Louisiana.....	1,183	101	1,284
Maine.....	1,997	17	2,014
Maryland.....	2,324	1,287	3,611
Massachusetts.....	10,400	159	10,559
Michigan.....	657	12	669
Minnesota.....	126	2	128
Mississippi.....	153	21	179
Missouri.....	622	16	638
Montana.....	5	....	5
Nebraska.....	23	....	23
Nevada.....	7	1	8
New Hampshire....	1,230	7	1,237
New Jersey.....	16,981	956	17,937
New Mexico.....	27	....	27
New York.....	637,797	9,502	647,299
North Carolina....	371	473	849
Ohio.....	2,875	38	2,913
Oregon.....	19	1	20
Pennsylvania.....	10,325	730	11,055
Rhode Island.....	1,409	50	1,459
South Carolina....	922	330	1,302
Tennessee.....	350	38	388
Texas.....	225	7	232
Utah.....	14	....	14
Vermont.....	1,601	12	1,613
Virginia.....	1,207	3,689	4,896
Washington Territory.....	8	....	8
West Virginia.....	69	31	100
Wisconsin.....	447	3	450
Wyoming.....	4	....	4
At sea.....	16	....	16

The valuation of property in the State and the several counties, as returned by the census of 1880, is as follows:

COUNTIES.	Assessed valuation of real estate.	Assessed valuation of personal property.	Total assessed valuation of property.
Albany	\$64,295,172	\$1,977,970	\$66,273,142
Allegany	10,117,160	1,286,574	11,403,734
Broome	11,978,646	1,174,860	13,153,506
Cattaraugus	11,675,021	1,600,834	13,275,855
Cayuga	21,129,631	3,711,775	24,841,406
Chautauqua	18,192,832	3,153,141	21,345,973
Chemung	12,812,462	723,100	13,535,562
Chenango	12,830,132	3,015,075	15,845,207
Clinton	7,263,130	1,254,136	8,517,266
Columbia	22,743,200	5,276,905	28,020,105
Cortland	7,786,530	1,163,724	8,950,254
Delaware	9,715,734	1,671,634	11,387,368
Dutchess	36,045,422	6,217,232	42,262,654
Erie	72,102,071	9,949,993	82,052,064
Essex	8,017,305	900,826	8,918,131
Franklin	5,594,655	1,149,216	6,743,871
Fulton	5,051,554	272,993	5,324,547
Genesee	15,041,300	2,596,226	17,637,526
Greene	8,666,246	541,056	9,207,302
Hamilton	793,709	1,300	800,009
Herkimer	13,455,638	1,507,179	14,962,817
Jefferson	17,754,811	4,315,476	22,070,287
Kings	240,875,273	15,742,996	256,618,269
Lewis	6,896,896	824,740	7,721,636
Livingston	15,630,007	2,412,031	18,042,038
Madison	12,295,942	2,781,720	15,077,662
Monroe	52,336,450	3,533,804	55,870,254
Montgomery	14,810,186	383,299	15,193,485
New York	1,049,340,336	197,532,075	1,246,872,411
Niagara	18,253,036	1,837,414	20,140,500
Oneida	39,476,037	5,011,494	44,487,531
Onondaga	40,137,456	8,505,304	48,642,760
Ontario	19,123,121	3,956,590	23,079,711
Orange	23,300,932	7,035,035	30,335,967
Orleans	11,520,821	1,744,723	13,265,544
Oswego	13,903,554	1,766,422	15,670,000
Otsego	15,710,329	1,566,809	17,277,138
Putnam	5,356,370	1,510,129	6,866,499
Queens	35,935,460	2,702,100	38,637,560
Rensselaer	37,393,523	4,514,629	41,908,152
Richmond	10,766,906	432,050	11,198,956
Rockland	9,563,131	1,380,903	10,944,034
Saratoga	16,432,374	2,624,180	19,056,554
Schenectady	8,147,581	590,047	8,737,628
Schoharie	7,395,379	872,876	8,268,255
Schuyler	5,067,536	733,513	5,801,049
Seneca	10,546,313	1,732,057	12,278,370
Steuben	15,672,665	2,237,970	17,910,635
St. Lawrence	13,554,697	2,254,275	15,808,972
Suffolk	12,851,523	1,861,560	14,713,083
Sullivan	4,237,432	243,420	4,480,852
Tioga	8,692,061	396,710	9,088,771
Tompkins	10,244,474	1,612,362	11,856,836
Ulster	15,280,273	3,191,606	18,471,879
Warren	4,263,635	470,473	4,734,108
Washington	16,770,617	3,339,979	20,110,596
Wayne	19,215,460	1,813,073	21,028,533
Westchester	56,735,723	3,935,032	60,670,755
Wyoming	9,374,933	1,232,025	10,606,958
Yates	10,070,185	810,100	10,880,285
Total	\$2,326,669,813	\$352,469,320	\$2,679,139,133

Charles J. Folger, Chief Judge of the Court of Appeals, resigned his office on the 14th of November, to accept the position of Secretary of the Treasury of the United States. The Governor designated Associate Judge Charles Andrews for the vacant place, and appointed Charles L. Benedict, of Brooklyn, to succeed Judge Andrews.

A National Tariff Convention was held in the hall of the Cooper Union, New York city, on the 29th and 30th of November, which was taken up chiefly with a discussion of changes in the national tariff. A declaration in favor of abolishing the internal revenue taxes was defeated. The general purport of the discussion and declarations of the convention was favorable to the maintenance of high protective duties.

NICARAGUA (REPÚBLICA DE NICARAGUA), one of the five independent states of Central America. Lying between latitude 10° 45' and 14° 55' north, and longitude 83° 15' and 87° 38' west, it is bounded on the north by Honduras, on the east by the Caribbean Sea, on the south by Costa Rica, and on the west by the Pacific Ocean. The area of the republic is variously given at from 52,000 to 58,000 square miles, and the population is estimated at 300,000. The northern boundary, with Honduras, is unsettled, but the Coco or Segovia River is generally considered as the dividing line between the two countries; yet in some recent Central American maps that line is placed northwest of the stream first named. The territorial division is into eight departments, which, with their chief towns, are as follows:

DEPARTMENTS.	Chief towns.
Managua.....	Managua.
Granada.....	Granada.
Leon.....	Leon.
Rivas.....	Rivas.
Chinandega.....	Chinandega.
Chontales.....	Acayapa.
Matagalpa.....	Matagalpa.
Nueva Segovia.....	Ocotul.

The Mosquito Territory, or Reserva Mosquita, a narrow strip of land on the Atlantic coast of Nicaragua, and inhabited by the Mosquito Indians, ruled by a cacique or king, is under the protection of Great Britain.

By the terms of the new constitution, adopted on August 19, 1858, after the filibuster war, Nicaragua is under a popular representative government, the power being divided into three branches—legislative, executive, and judicial. The legislative power resides in a Senate and a Chamber of Deputies, the first composed of ten members, and the second of eleven. The executive power is vested in a President, aided by (at present) three ministers. The presidential period is four years, and no person can be re-elected to that office. The judicial power is divided into two sections, one of which resides in Leon and the other in Granada. They are composed of four magistrates each, and appeals may be made from either section to the other. The magistrates are elected by Congress for four years each; and one half of the members of each section are changed during each legislative period.

The present President of the Republic is Señor Don Joaquin Zavala, inaugurated on March 1, 1879; and the Cabinet of 1880 was composed of the following ministers: Foreign Affairs and Public Instruction, Dr. A. Cárdenas; Interior, Justice, and Public Worship, Licentiate V. Navas; and Finance, War, and Marine, Colonel J. Elizondo.

The President of the Senate is Señor Don A. H. Rivas; and the President of the Chamber of Deputies, Señor Don A. Zavala.

The Consul-General of Nicaragua in New York is Mr. Alexander J. Cotheal, and the Consul is Mr. C. R. Flint.

The United States Minister, accredited to

the five Central American republics and resident at Guatemala, is Dr. Cornelius A. Logan.

According to the new military code, all Nicaraguans between the ages of eighteen and fifty-five years are compelled to serve in the army. The conscription list comprised, in 1878, a total of 44,788 men, as follows: First category, 30,264; second category, 10,297; third category, 4,227; conscripts from the first category, 24,686; contingent assigned to the departments, 646.

In Nicaragua, as in the other Spanish-American states, much zeal and energy are displayed by the Government in promoting the cause of public instruction. The number of primary schools in the republic in 1879 was 135 (of which 107 were for males), with 137 teachers, and an aggregate attendance of 8,596. There were, also, numerous private schools. The annual expenditure for primary education is reported at \$50,000. The intermediate and higher branches of learning are taught in seven colleges and five schools distributed throughout the country, with fifty teachers and 612 scholars. Normal instruction is given in the College of Granada and in that of El Espíritu Santo, at Leon, pursuant to special contracts with the Government. Efforts were being made for the re-establishment of the old university.

The national revenue for the fiscal year 1879-'80 amounted to \$2,436,093, of which \$906,347 were derived from the customs department; and the expenditure to \$2,570,137; thus constituting a deficit of \$134,044.

The national debt is set down by foreign economists at \$1,159,571 in consolidated bonds, and \$18,703 in bullion; but national economists have of late taken pains to proclaim and, if possible, to prove that "the republic has no foreign debt, since the only one by which it was encumbered—the so-called 'Barclay debt'—dating from the time of the Federation, has been canceled long ago." Whether in the form, however, of original obligations or government bonds, the indebtedness still exists: consolidation may precede, but it does not involve, extinction.

The subjoined tables exhibit the values of the foreign trade of Nicaragua for the years 1877-'80:

IMPORTS.			
YEARS.	Values.	YEARS.	Values.
1877.....	\$1,217,716	1879.....	\$1,466,369
1878.....	913,461	1880.....	1,470,114
EXPORTS.			
YEARS.	Values.	YEARS.	Values.
1877.....	\$1,276,069	1879.....	\$1,650,709
1878.....	1,319,153	1880.....	2,057,622

The chief staples of export are India-rubber, coffee, gold and silver, dye-stuffs (principally indigo), deer-skins, cedar-wood, etc.

The present era of peace affords the Government an opportunity, which it has embraced, of increasing the means of communication, and particularly those facilitating the transport of products from the interior to the coast. At

the present time there is in course of construction a line of railway from the Pacific sea-board to the great lake of Managua, *via* Corinto, Chinandega, and Leon, the lake terminus being at Moábita. The remainder of the route to the Atlantic will be performed by means of steamers of five feet draught. The work of canalizing the river San Juan for that purpose had already been commenced. On the completion of the bridge across the Paso de Caballos (a narrow arm of the sea separating from the mainland the island on which the port of Corinto stands), through trains will begin to run between Corinto and Chinandega. The branch from the latter point to Leon was being rapidly pushed forward toward completion.

That the project of opening an interoceanic canal through Nicaraguan territory, far from having been relinquished, is likely soon to become an accomplished fact, is apparent from the following report:

WASHINGTON, December 15, 1881.

The bill introduced to-day by Senator Miller, of California, "to incorporate the Marine Canal Company of Nicaragua," names as persons to be so incorporated, U. S. Grant, E. D. Morgan, H. J. Jewett, Howard Potter, William R. Garrison, Frederick Billings, George B. Loring, William L. Merry, William B. Franklin, Solon Humphreys, Frederick Butterfield, E. F. Beale, William H. Barnum, George F. Baker, Daniel Ammen, Edward C. Anderson, Alexander Taylor, U. S. Grant, Jr., Edward M. Clymer, S. L. Phelps, Charles Dana, Robert Harris, Edward F. Smith, Robert Ten Broeck, William Dennison, Manuel Cuadra, Thomas De Franco, and A. G. Menocal. The bill proposes to authorize this company "to do all lawful things to secure the full enjoyment of the powers, privileges, rights, benefits, and grants, contained in a canal concession made by the Republic of Nicaragua to the Provisional Interoceanic Canal Society, and confirmed May 22, 1880." The principal office of the company is to be in New York city. Its capital stock is to consist of not less than 500,000 nor more than 1,000,000 shares of \$100 each, which shall, in all respects, be deemed personal property, and its affairs are to be managed by a board of eleven directors, one of whom shall be appointed by the President of the United States, and one by the Government of Nicaragua. The bill further provides, that the United States shall guarantee to the said company, for the period of twenty years from and after the completion of its canal and the commencement of the passage of vessels through it from ocean to ocean, that its net receipts shall not be less than three per cent upon its capital stock; but this agreement is accompanied with stipulations that not more than \$1,000,000 shall be deducted from the gross receipts in any one year for operating expenses, and that no interest upon any indebtedness of the company shall be paid out of its canal receipts until three per cent upon its total capital stock shall have been earned, and the United States thereby released from liability. The ninth section provides that the aggregate tolls and charges for the transit of any vessel through the canal shall not exceed \$2.50 per ton of weight, or of forty cubic feet measurement (according to the usage observed by the Pacific steamship companies), of all cargo, fuel, and supplies on board any vessel in transit; but the company may, at its option, charge in lieu thereof not exceeding \$1.25 per ton, actual displacement of any vessel, when in the canal. Section 10 requires the company to transmit, yearly, to the Secretary of the Treasury a statement of the total canal receipts and expenditures, and provides that, whenever it shall be found that the net receipts

therefrom exceed ten per cent per annum upon the capital stock, the rate of charges shall be reduced so as to yield not more than ten per cent. The eleventh section of the bill is as follows: "The United States shall exercise such control over the canal as is now or may at any time be prescribed by treaty with Nicaragua, and shall enjoy its free use for the transportation of troops, munitions of war, and mails, and otherwise in accordance with stipulations of existing treaties. And should the United States see fit, for national reasons, to temporarily occupy and manage said canal, the right to do so is hereby reserved and secured to the Government, upon payment to the stockholders of said canal, at the rate of five per cent per annum annually, upon the capital invested, together with the necessary expenses for the maintenance of the work."

In conclusion, the bill provides that any refusal on the part of the company or of its board of directors to comply with the provisions of this act, shall render the company liable to forfeit all rights derived therefrom, and that "Congress may, at any time, having due regard to the rights of said company, alter or amend this act."

In answer to the question, "What are the advantages of the Nicaragua route?" General Grant is stated to have replied as follows, about December, 1880: "The Nicaraguan route has the advantage of being farther north, a less distance from the tropics for vessels to sail or steam going from the Atlantic or Pacific ports or from Europe, or to the East, with the exception of Australia, where they have to go through the tropics anyhow; and the same is the case with New Zealand. A line of lower levels is found by the Nicaraguan route than any other, and then at the summit is a very large and extensive plain, and the water-shed of that region is to the lake, instead of to the stream which empties into it, so that it receives the water-fall of the heavy tropical rains, and, being of so large an extent, it has but a few feet rise or fall. Its banks reach within twelve miles of the Pacific Ocean, so that a canal could be built from the lake to the Pacific without any water-course running into the canal, or without any water-shed to throw its water into the canal. The outlet of this lake is to the Atlantic side by a large, navigable river. It has no tributaries coming into it until you get well down toward the mouth. Consequently it is not subject to rise or fall, or to overflows, being only, as I remember, about four inches between the highest water in the rainy and the lowest water in the dry season. This river is already navigable for large steamers. There are three rapids to go over. By a system of dams, starting the first dam just above where the tributary comes into the river, the San Juan, slack-water navigation could be made for the largest vessels up to the first of the rapids; then by systems of dams and locks there could be slack-water navigation all the way, locking the rapids to the ends of the dams wherever they occur. Then the canal would leave the river from the lower dam and run out to the Atlantic side over ground where it would have no stream running into it and no water-shed to pour its waters into the canal."

General Grant's opinion in regard to the

Panama Canal appears to be that the prejudice therefrom to the Nicaragua Company would be but temporary.

One or two uprisings of a revolutionary character took place during the year 1881; but the Government made use of prompt and decisive measures to repress disturbances, one being the expulsion of the Jesuits from the republic, members of that society being deemed guilty of demonstrations subversive of public order in Leon, and the immediate cause of the riots.

NORTH CAROLINA. The Legislature of this State, consisting of 83 Democrats and 12 Republicans in the Senate and 83 Democrats and 37 Republicans in the House, assembled on the 5th of January, 1881, and remained in session until the 14th of March. On the 18th of January Governor Jarvis was inaugurated. In his address he enlarges upon the need of immigration and the importance of making the resources and advantages of the State more fully and generally known. On the subject of the regulation of railroads, he says:

But while it is imperative to encourage every known method for the development of the resources of the State, it is just as important to guard against anything calculated to retard it. If this be so, then it becomes the duty of the law-making power of the State to see to it that the lines of transportation operating in the State do not, by their discriminating charges, transfer to other States the industries that properly belong to ours. I do not join in the wholesale abuse of the railroads that some heap upon them, but I do believe they ought to be required to do exact and equal justice to all sections. This I think to be their interest as well as their duty, and, if they refuse, I have no doubt about the power of the State to compel it. But these lines of railway have been the great agency in the development of the State, and we ought to be just as careful to see that we do not treat them unjustly as we are to see that they treat us fairly. The most amiable as well as the most effective tribunal to adjust these matters, which has thus far been tried, is a first-class railroad commission. Such a commission, elected by the General Assembly every two years, with proper powers, would, in my opinion, be of great service to the people.

He directs attention especially to the necessity of improving the educational system of the State, and says:

The time for a bold onward movement in the great cause of education is propitious and the surroundings favorable. It is the beginning of an administration with no embarrassments. There are no works of internal improvement to be provided for. Our public debt, by its adjustment, is small and can no longer frighten us. Less than \$150,000 will pay its annual interest. Our rate of taxation is exceedingly low as compared with other States. I have obtained officially the rate in twenty-seven States, and in them all it is higher than in ours, and in most of them greatly so. I do not know the rate in the others. Our assessment of property for the purposes of taxation, as everybody knows, is exceedingly low. If all the property was honestly listed and fairly valued at its cash value, the property of the State would be at least \$300,000,000, instead of the \$156,268,241, as now returned. Public sentiment has prepared for a large increase of taxation for schools, and will sustain it.

There were passed at this session of the Legislature 384 bills. The two most important

acts are those relating to public schools and prohibition. The chief provisions of the school act are as follows:

1. The act provides that the State Board of Education shall recommend a series of textbooks, which shall be used in all the public schools of the State for a period of three years, and until otherwise ordered, the State Board to regulate the prices.

2. It provides for traveling expenses of the State Superintendent, not to exceed \$500, and for a clerkship to his office at \$600.

3. It abolishes the office of county examiner, to take effect from and after the first Monday in June, 1881, and substitutes therefor the office of county superintendent of public instruction, who is to be elected on the said first Monday in June by the county board of education and the board of county justices jointly. The county superintendent is required to examine candidates who desire to teach, and pass upon their qualifications; to visit and inspect the public schools in the county; to advise with teachers as to the best methods of instruction; to suspend teachers for want of qualification, neglect of duty, or improper conduct, and notify the school committee of such suspension, stating the cause; to distribute blanks to school committeemen and teachers; collect school statistics, and receive reports from teachers heretofore made to county treasurer; to countersign all orders on county treasurer for school moneys in payment of teachers' salaries; to hold and conduct teachers' institutes, and to exercise general supervision over the public schools of his county, and to report the school statistics of his county annually on the first Monday of December to the State Superintendent of Public Instruction. For these duties he is to receive a compensation of three dollars per day for each day engaged, to be paid out of the unapportioned school fund of the county. Provided, that he shall not receive in any one year more than five per centum of the entire amount of the school fund of the county.

4. It requires that the school funds of the county shall be apportioned on the first Monday in January in each year, and shall be based on the actual amount of money in the hands of the county treasurer, and not on the amount levied on the tax-list as under the old law.

5. The county board of education may annually apportion \$100 out of the public-school moneys to defray the expenses of teachers' institutes, and, where it is deemed practicable or advisable, a number of counties may unite in one institute.

6. The school year is changed so as to correspond with the county fiscal year, and will therefore end November 30th in each year.

7. Twelve and a half cents is levied on each \$100 valuation of property for school purposes, and if this, with the capitation-tax, fines, etc., shall be insufficient to maintain one or more schools in each district of the county for four months in the year, then the county board of

education is required to levy a special tax to meet the deficiency. Said special tax is to be distributed by the county board under such rules as in the judgment of said board will secure a four-months school in each district, as required by Article IX, section 3, of the Constitution.

8. Additional safeguards are thrown around the collection, handling, and disbursement of school moneys, and school committeemen are required to take deeds for all school-house sites acquired by them, which must be regularly probated, recorded, and deposited with the county treasurer for safe-keeping. Blanks for said deeds are to be furnished to the said committeemen by the county school authorities.

9. School committeemen are authorized to pay full cost of building, repairing, and furnishing school-houses, instead of half the cost, as provided in the old law, this cost to be paid out of the school fund of the district for which the house is built.

10. Certificates from county superintendents will be valid in the county where issued, for one year from date, and no teacher can be employed who does not produce a certificate, of proper date, from the county superintendent.

11. First-grade teachers may receive three dollars per day, second-grade two dollars per day, and third-grade fifteen dollars per month for services. No teacher can be paid for a less school term than one month.

12. The State Board of Education is required to apportion, on the first Monday in August, all the school moneys in the State Treasury.

There was also a special act passed by the General Assembly requiring the State Board of Education to sell during this year the United States bonds belonging to the school fund, and to distribute the proceeds, together with the distribution school fund in the hands of the State Treasurer, to the several counties of the State, on the basis of school population. This fund was expected to amount to about \$130,000. The entire school fund for the year was estimated at \$500,000.

In addition to the appropriations made in 1877 for normal schools at Chapel Hill and Fayetteville, section 5 of the act passed at this session of the General Assembly making an appropriation to the university appropriates \$4,000 for other normal schools, \$2,000 for white teachers, and \$2,000 for colored teachers, providing that not less than four schools for each color shall be established. The location, organization, and management of these schools are under the supervision and control of the State Board of Education.

Acts were also passed creating two new counties (Durham and Vance), punishing cruelty to animals, allowing defendants and their wives to testify in criminal actions, providing for a codification of the laws, and levying a tax to pay the interest on the public debt. Legislation respecting prohibition was demand-

ed by various religious and other bodies and by a State Prohibition Convention, consisting of 200 delegates from all parts of the State, which met in Raleigh in January. The act which was passed is as follows:

SECTION 1. That any person who shall manufacture, buy, or sell, either directly or indirectly, any spirituous or malt liquors, except wines and cider, or by any shift, subterfuge, or device, spirituous liquors, or any liquor of which spirituous liquor is a material or constituent part, in any quantity, in this State, otherwise than by this act provided, shall be guilty of a misdemeanor, and upon conviction thereof in any court of record, having jurisdiction of the same, shall be fined not less than one hundred nor more than one thousand dollars, and be imprisoned in the discretion of the court.

SEC. 2. That spirituous liquors, or liquids of which spirituous liquors are a material and constituent part, may be kept and sold as by this act provided, and in no other way or manner, only for medical, chemical, and mechanical purposes, and for these purposes only by a druggist, apothecary, or physician, who shall have obtained a license in pursuance of the provisions of this act, allowing him to sell the same for such purposes; apothecaries or physicians in each county shall have such license; and any druggist, apothecary, or physician who shall have obtained such license shall not keep at any time a greater quantity of such spirits on hand than thirty gallons; and shall not sell to any person a greater quantity, at one time, than one gallon.

SEC. 3. The county commissioners of the several counties in the State may, upon application made to them, only in the way in this section provided, by a druggist, apothecary, or physician, grant a license to last for one year and no longer, to sell such spirituous liquors as are mentioned in this act only for medicinal, chemical, and mechanical purposes, and in the way and manner in this act directed, and no other; but before granting any such license they shall ascertain and find by the oath and examination of two or more sober and respectable citizens of their county that such applicant is a sober, reliable, and trustworthy person; and they shall record the names of the citizens so by them examined and the facts so found by them upon the minutes of their proceedings in connection with the orders and proceedings granting such license; and any druggist, apothecary, or physician desiring to obtain such license shall apply for the same by petition setting forth that he is a druggist, apothecary, or physician in the county where such application is made—the place where he sells drugs and medicines or regularly practices medicine—that he desires to keep and sell such spirituous liquors only for medicinal, chemical, and mechanical purposes; that he will not knowingly keep or sell such liquors otherwise, nor in greater quantities than as by this act allowed, and that he will well, truly, and faithfully keep and observe the provisions of this act so far as the same are applicable to him; such petitioner shall subscribe and swear to this petition, and the same shall be filed and preserved among the papers and records of the county commissioners before it shall be presented. But no druggist, apothecary, or physician shall be licensed to sell any of the spirituous or malt liquors herein mentioned until he has executed and given to the board of commissioners of the county wherein the liquors are proposed to be sold, a bond with good and sufficient security, to be duly justified in a sum of not less than five hundred and not more than five thousand dollars, conditioned that he will faithfully comply with and perform all the requirements and conditions of this act. The said bond shall be recorded and filed as in cases of official bonds, and whenever the said commissioners shall have reason to believe that the party so licensed has violated any of said conditions or provisions, they may put the same in suit and prosecute to judgment,

and in addition thereto they may for good cause revoke said license, first giving to the holder thereof at least two days' notice of the time when a notice to revoke will be made.

SEC. 4. A druggist, apothecary, or physician having a license to keep and sell such spirituous liquors as by this act provided, shall not sell the same to any one person at one time, in a greater quantity than one gallon, nor in any quantity, unless the person applying to purchase the same shall present and deliver the certificate of a sober and respectable practicing physician, not a licensed dealer under this act, given upon his honor, to the effect that such spirituous liquors so required are in fact required for medicinal purposes; or a like certificate of a sober, respectable chemist or artist, that such spirituous liquors are required in fact for chemical purposes; or a like certificate of a sober, respectable mechanic that such spirituous liquors so required are in fact required for mechanical purposes; and if any physician, chemist, artist, or mechanic shall make any such certificate falsely stating or suggesting the purpose for which such spirituous liquors specified by him are required, every such physician, chemist, artist, or mechanic making such false certificate shall be deemed guilty of a misdemeanor, and upon conviction in any court of record having jurisdiction thereof shall be fined not less than one hundred nor more than five hundred dollars, and may, in the discretion of the court, be imprisoned.

SEC. 5. Every druggist, apothecary, or physician who shall have a license to sell such spirituous liquors as provided for in this act, and shall violate the provisions of the same in any respect, directly or indirectly, or by any shift or subterfuge, shall, for every such violation thereof, be deemed guilty of a misdemeanor, and, upon conviction in any court of record having jurisdiction, shall be fined not less than one hundred dollars, nor more than five hundred dollars, and be imprisoned in the discretion of the court; and, moreover, shall forfeit his said license, to be canceled by the court; and if any clerk or employé of such druggist, apothecary, or physician shall in any way violate the provisions of this act, under pretense of selling such spirituous liquors for his employer, or otherwise, he shall, for every such offense, be deemed guilty of a misdemeanor, and upon conviction in any court of record having jurisdiction shall be fined not less than fifty dollars nor more than one hundred dollars, and be imprisoned at the discretion of the court.

The act was to take effect on October 1, 1881, but on August 1, 1881, an election was required to be held, for or against prohibition. If the majority voted against prohibition, the prosecutions authorized by the act were not to be made.

The Anti-Prohibitionists met in convention at Raleigh on the 1st of June. Nearly every section of the State was represented, but the greater number of the delegates were from west of Raleigh. About a quarter of the number were colored. The following resolutions were adopted:

Whereas, A bill to prohibit the manufacture and sale of spirituous and fermented liquors, for the purposes of beverage, within the borders of North Carolina, was passed by the last Legislature, to be submitted to the people, for ratification or rejection, at an election to be held on the first Thursday in August next; and

Whereas, The said act is obstructive to the moral, social, political, and material progress of our people: Because it proposes to deprive them of reasonable and proper liberties they have always enjoyed, is sumptuary in its character and opens the door to further encroachments upon those liberties. Because it is violative of our State Constitution in letter and spirit. Because it is incapable of enforcement, and, as worse

than a dead letter on our statute-books, will beget disrespect for other and better laws, and looseness in their administration. Because it proposes a monopoly hateful to the instincts of a free people, and seeks to establish that monopoly in the hands of a class who have neither sought nor desired it, and whose best interests would be subverted in its success. Because, in the light of its working in other communities, we see that it opens the door to more sin, misery, and wrong than it prevents, and prepares the ground for a new crop of crimes and abuses. Because it proposes to impose upon the monopolists it creates, the druggists and physicians licensed under its degrading conditions, and offers a premium for the debauching of two noble professions. Because it discriminates against our own people in favor of others, by prohibiting the manufacture of liquors that the act itself declares are necessary to the medical, mechanical, and scientific uses of our people. Because it discriminates between classes among our own people, and offers privileges to one it denies to another. Because, under it, the giving away of liquor not being prevented, will spring up a custom among merchants of treating their customers, susceptible of great abuse. Because it decreases the sources of State, county, and municipal revenues, makes new taxes necessary, and prepares a new and onerous burden for tax-payers little able to bear it. Because it will rob the public schools of moneys necessary to their support, and makes no provision for the gap in their revenues. Because under it no form of inebriety can be restrained, and, where open drinking is suppressed, secret drinking will ensue. Because the best and most perfect forms of such legislation are inadequate to the suppression of a temptation common to all mankind, and ordained, in fact, by the Creator of the universe. Because two thirds of the entire spirituous product of the country being used for scientific, mechanical, and medical purposes, it is impracticable to stop its manufacture, unless every industry connected with it is first killed outright, and our people are brought back to the ways and methods of barbarous days. Because, not only powerless to cure the ills it treats, and sure to engender and foster new and greater evils, it is, for the reasons recited, and many others, obnoxious to the cause of virtue, morality, peace, prosperity, and happiness among our people: therefore, be it

Resolved, That we, the real representatives of the cause of temperance in North Carolina, the anti-prohibitionists, here in convention assembled, find the said bill unworthy the support of enlightened freemen and good citizens:

And, be it resolved further, That we pledge ourselves to resist its adoption by every worthy means at our command, and call upon our fellow-citizens of every creed and race, of every shade of religious and political opinion, to join with us in condemning at the ballot-box this most unjust, unworthy, and improper law.

Subsequently the following address was issued by the Executive Committee:

It often happens, in the march of progress, among enlightened nations, that the attention of a community is aroused to the existence of some great evil in its midst. A recognition of the evil begets desire for its remedy. Agitation ensues, measures of reform are hastily projected, and experiments in legislation are proposed for the suppression or limitation of the evil.

Of all the problems that thus seize upon the public mind periodically and thrust their claims for solution upon civilization and the spirit of progress, none is of greater importance, perhaps, than that which is involved in what is commonly known as the "temperance question."

The people of the State of North Carolina have been suddenly and rudely plunged into consideration of this perplexing problem, while a specious, ready-made,

legal solution is held out for their adoption, the promoters of which give currency to such promises of happy results, such prophecies of good obtainable, as most readily appeal to those emotions of generosity, charity, and morality characteristic of high civilization. A new alliance between Church and State is proposed, and Christian organizations, grown numerous and powerful in a civilized land, are demanding legislative control of the public conscience.

The gravity of the subject requires that it should not be handled lightly, but considered with a calm and even mind, and every step of attempted reform be based on truth and right reason. Great dangers must be met by great prudence—not by headlong impulse—for errors that enhance the ills we seek to cure grow from blunders into crimes.

History shows on every page of its record that with growth of power the Church comes often to demand State assistance to enforce its teachings—pleading always a good to be gained, a truth to be sustained by civil enactment. And just as often, too, it shows that such alliances are fruitful only in evil to the Church, to religious sentiment, and the cause of morality, while through them weakness and demoralization creep upon the State to canker the very heart of government and sow beneath its foundations the seeds of corruption and decay.

Legislative edicts free from the entanglements of false alliances, free from taint of prejudice or suspicion of jobbery, instinct with the wisdom of true state-craft and responsive to the practical demands of society alone, should have the support of the judicious, acting in such a cause. They must not rest in the emotions and prejudices of good though unthoughtful people, but appeal to the common sense of thinking and reasonable men; they must not deal falsely with Scripture; they must not defy the mandates of science; they must not ignore the lessons of history. Obnoxious to these plain first principles of a wise public polity, they are worse than useless, and their enactment a return to false systems that shackle us in slavery to new abuses without enfranchising us from the dominion of the old.

We hold the interests of truth, morality, religion, and a high standard of public policy to be opposed to the usual forms of prohibitory legislation. We hold that the errors, inaccuracies, inefficiencies, and reacting evils common to this form of legislation are glaringly exemplified in that special enactment known as the Prohibition Act, now under consideration by our people. The certainty of aggravating evils sought to be cured, while engendering, multiplying, and fostering new and greater wrongs, is found in its false theories and pernicious methods.

A just and fair treatment of the question is safest at first because it must come at last. Those who would obstruct this treatment by a blind and tenacious adherence to so-called systems of reform, false in theory, fanatical in methods, incapable of beneficial results, and fruitful in reactive evils, are, before God and man, chargeable with the grave responsibility of seeking extension of the ills they deplore and assisting to spread a curse they themselves declare threatens to sap the foundations of morality and decency, and, if not checked, to overthrow the social fabric of civilization itself.

And, therefore, we hold that the rejection of the act by the electors at the polls is the first great step in the cause of temperance reform possible to the people of North Carolina.

The result of the vote was as follows: for prohibition, 48,370; against prohibition, 166,325; total vote, 214,695; majority against prohibition, 118,955. Only four of the ninety-six counties gave majorities for prohibition, viz., Cherokee, Clay, Transylvania, and Yancey. With respect to the composition of the vote the Raleigh "News and Observer" says:

We suppose that 8,000 Republicans may have voted for prohibition, leaving, perhaps, 40,000 Democratic supporters of that side. Of the 166,325 who voted against the measure, perhaps 75,000 were Democrats and 91,000 Republicans. To be sure, these are only surmises, founded on the normal strength of the parties, and taking it for granted that the 30,000 voters who did not vote were about equally divided between the parties. We assume that the 214,000 votes cast represent 114,000 Democrats and 100,000 Republicans. And so it appears that nearly twice as many Democrats voted against the bill as for it, and more than eleven Republicans voted against it where one voted for it. These calculations are, however, more curious than profitable, for the whole matter is mere speculation. All that we know is that the majority approximates 120,000.

In May a convention of colored Republicans was held in Raleigh, which demanded greater recognition of their race by the party in the State in appointments and elections to office. In September a meeting of county superintendents of public instruction was held in Raleigh, and a State association was formed. There are in the State sixty-six educational institutions, such as university, colleges, high-schools, military academies, etc. There are in addition graded schools at Raleigh, Wilmington, Bakersville, Goldsboro, Fayetteville, Salisbury, Charlotte, and Greensboro. There are twenty-one agricultural societies and clubs of note. There are four paper-mills, all water-power, with a daily capacity of eight tons of paper. There are fifty-nine cotton and woolen factories, besides factories for the manufacture of tobacco, agricultural implements, furniture and wood-work, sewing-machines, etc. There are no less than twenty-two railways, whose lines are wholly or in part in the State. The extreme length of the State, east to west, from Dare to Polk Counties, is 485 miles, and the extreme breadth, from Brunswick to Granville, north and south, is 188 miles. There are ten sounds, and the area of the sounds and bays is 3,300 square miles. There are fifteen lakes, covering an area of 200 square miles. There are three Insane Asylums and two Institutions for the Deaf and Dumb and the Blind. The different sections of the State were settled as follows: By English Quakers and Baptists in the northeast; by Swiss and French in the east; by Scotch in the southern tier of counties; by Scotch-Irish a little farther west; by Moravians in the northwest, and by Dutch in the west center. The various crops are chiefly raised as follows: Rice and corn in the east; cotton a little nearer the center; then corn and cotton; next tobacco; yet a little farther west the small grains; then the great fruit country; and on the extreme western border the region where buckwheat, wheat, barley, etc., flourish.

The acreage of tobacco was 57,208, and the yield 26,986,213 pounds. North Carolina stands fifteenth among the States in production of corn, and the increase is 50 per cent over 1870. In the cereals the State is reported as follows: corn, 27,959,894 bushels; wheat, 3,385,670; oats, 3,830,622; barley, 4,799; rye, 284,993;

buckwheat, 45,209. In oats and rye it is nineteenth in order of production, barley thirty-eighth, rye seventeenth, and buckwheat eighteenth.

Below is given the cotton yield of the State according to the United States census of 1880. The counties have been arranged in three groups, the first embracing the nineteen sea-coast counties, which produced only 33,613 bales of cotton. The next group comprises the old *ante-bellum* cotton counties as far as practicable; these produced 226,505 bales. The other group, as far as may be, gives an idea of the new cotton territory, brought under culture since the war; the number of bales produced in it runs up to nearly 130,000. It includes Wake, now the largest cotton county in the State, where but little if any was grown before the war. The entire number of acres devoted to the staple in 1879 was 892,982, and the number of bales grown was 389,576. These figures were increased ten per cent in 1880, and increased again in 1881. Most of this increase is in the new cotton territory, so that year by year the culture of the staple is extending in the State:

SEA-COAST COUNTIES.

COUNTIES.	Acreage.	Bales.
Currituck.....	816	139
Camden.....	2,670	823
Pasquotank.....	4,004	1,181
Perquimans.....	7,025	2,778
Chowan.....	6,047	2,223
Dare.....	16	8
Tyrrell.....	3,451	1,123
Hyde.....	2,513	718
Beaufort.....	11,785	6,021
Pamlico.....	4,585	2,226
Craven.....	12,838	5,782
Carteret.....	2,936	1,014
Jones.....	8,463	4,078
Onslow.....	6,658	2,841
Pender.....	1,463	855
New Hanover.....	142	66
Brunswick.....	385	244
Columbus.....	2,113	930
Bladen.....	1,618	683
Total.....	79,018	33,713

ANTE-BELLUM COTTON COUNTIES.

COUNTIES.	Acreage.	Bales.
Gates.....	5,700	1,860
Hertford.....	14,605	6,360
Northampton.....	36,219	13,616
Bertie.....	19,455	7,290
Washington.....	8,117	3,524
Martin.....	13,355	6,337
Pitt.....	81,147	14,879
Edgecombe.....	51,880	26,250
Halifax.....	43,206	16,661
Warren.....	21,603	7,778
Franklin.....	30,274	12,938
Nash.....	25,768	12,567
Wilson.....	23,706	13,049
Greene.....	16,988	8,020
Wayne.....	82,103	14,558
Lenoir.....	19,150	8,235
Duplin.....	9,654	4,499
Sampson.....	15,346	6,291
Union.....	19,090	8,336
Anson.....	28,296	11,857
Richmond.....	25,198	12,754
Robeson.....	21,607	8,546
Total.....	507,467	226,505

NEW COTTON COUNTIES, BROUGHT UNDER CULTIVATION
SINCE THE WAR.

COUNTIES.	Acreage.	Bales.
Alamance.....	211	91
Alexander.....	617	182
Burke.....	752	361
Cabarrus.....	19,224	7,467
Caldwell.....	30	12
Caswell.....	6	4
Catawba.....	5,175	2,012
Chatham.....	13,463	5,851
Cleveland.....	19,238	6,126
Cumberland.....	9,210	3,905
Davidson.....	3,779	1,553
Davie.....	790	302
Forsyth.....	16	10
Gaston.....	10,949	4,588
Granville.....	6,559	2,535
Guilford.....	283	114
Harnett.....	9,281	3,627
Henderson.....	10	4
Iredell.....	11,603	4,657
Jackson.....	16	6
Johnston.....	32,193	15,151
Lincoln.....	7,442	2,945
McDowell.....	23	9
Madison.....	12	4
Mecklenburg.....	41,343	19,129
Mitchell.....	15	6
Montgomery.....	6,519	2,959
Moore.....	8,882	3,988
Orange.....	5,290	1,919
Person.....	2	1
Polk.....	1,646	362
Randolph.....	595	295
Rockingham.....	5	3
Rowan.....	10,645	4,381
Rutherford.....	9,679	2,079
Stanley.....	5,878	2,475
Stokes.....	13	7
Surry.....	3	1
Wake.....	59,356	30,089
Watauga.....	10	3
Wilkes.....	107	29
Yadkin.....	87	26
Total.....	301,447	129,398

Wake County produced the most corn, 608,-052 bushels. Rowan comes next, producing 592,639 bushels, and is first in the yield of oats, 140,446 bushels. Davidson produced the most wheat, 174,271 bushels, and Ashe the most rye, 33,809. Greenville is the first in the production of tobacco, 4,606,358 pounds. Greenville, Person, Caswell, and Rockingham produced over a third of the entire tobacco-crop of the State.

A striking feature in the agriculture of the State is the great change that has been made in the cultivation of tobacco, both in the character of the plant grown and in the greatly extended area of culture. Prior to the war, tobacco was grown in only six or seven counties bordering on Virginia, and the variety then cultivated was known as "shipping tobacco," a black variety, which was grown exclusively on heavy soils of rich alluvial composition. Since the war, from the superior value of the product, the attention of growers has been turned exclusively to "yellow tobacco"—the world, in fact, deriving its largest supply of this variety from North Carolina. The culture of the plant has been extended from the border counties into the central part of the State, along the Piedmont belt to the western limits of the State—not uniformly, but in certain localities.

Of late years the cultivation of upland rice has grown into a great industry, and this crop now forms one of the staple productions of the State. Anterior to the war, rice-culture was confined to the lower valley of the Cape Fear and to the water-grown variety, but the cultivation of the upland crop is now prosecuted with the most encouraging results. The culture of the vine is now an established industry, and is being prosecuted with excellent results. The principal vineyards are situated at Fayetteville, Enfield, Kittrell, and near Salem, nearly in the central part of the State. The production of silk is also carried on in several of the central counties. In the fruit district much attention is given to the preparation of dried fruit. The State stands second in the manufacture of smoking-tobacco and fourth in manufacture of plug-tobacco. In 1880-'81 it manufactured 4,379,565 pounds of the former and 6,405,585 of the latter.

The receipts into the State Treasury during the year ending September 30, 1881, were \$645,-743.05. The expenditures for all purposes aggregated \$625,416.59. Of the disbursements, \$41,952 were on account of the Agricultural Department, being taxes on fertilizers, which are required by law to be paid into the State Treasury for the benefit of that department, but are no part of the general fund.

Of the \$71,179.55 paid on account of the Insane Asylum at Raleigh, \$21,179.55 was for the year 1880, which was not drawn till the close of that fiscal year (September 30, 1880). Of the expenses of the Institution for the Deaf, Dumb, and the Blind, \$32,500 was for the year 1880. These amounts aggregate \$95,632.29, which, being deducted from the total disbursements, leaves the expenses legitimately chargeable to this fiscal year \$529,-784.30.

The following is a summary of business of the port of Wilmington, for the calendar year 1881: The receipts of cotton foot up 128,096 bales, as against 106,156 bales for last year; spirits turpentine, 84,873 casks, as against 89,-954 casks for last year; rosin, 431,121 barrels, as against 480,984 barrels for last year; tar, 60,540 barrels, as against 54,186 for last year; crude turpentine, 91,444 barrels, as against 108,281 barrels for last year. The exports foot up as follows: To domestic ports—63,341 bales of cotton, as against 40,348 bales for last year; 29,067 casks spirits of turpentine, as against 33,272 casks for last year; 40,160 barrels rosin, as against 48,361 barrels for last year; 44,479 barrels tar, as against 39,409 barrels for last year; 2,335 barrels crude turpentine, as against 3,356 barrels for last year. To foreign ports—57,664 bales of cotton, as against 65,718 bales for last year; 58,477 casks of spirits turpentine, as against 69,453 casks for last year; 445,659 barrels of rosin, as against 399,349 barrels for last year; 14,909 barrels of tar, as against 14,032 barrels for last year; 102 barrels crude turpentine, as against none for last year.

Total exports for 1881:

Cotton, bales.....	121,005
Spirits turpentine, casks.....	87,544
Rosin, barrels.....	485,819
Tar, barrels.....	59,888
Crude turpentine, barrels.....	2,487

As compared with total exports for 1880:

Cotton, bales.....	106,166
Spirits turpentine, casks.....	102,725
Rosin, barrels.....	447,710
Tar, barrels.....	53,441
Crude turpentine, barrels.....	3,856

Total number of vessels arrived during the year, 306 American, registering 119,414 tons; and 244 foreign, registering 88,292 tons. Grand totals: 604 vessels, registering 207,706 tons.

In the extreme western part of the State, in Cherokee, Graham, Jackson, and Swain Counties, are about 1,100 Cherokee Indians, including a few Catawbans, who avoided transportation to the Indian Territory when the other Cherokees were removed. They have lands and a tribal government of their own, are farmers, and many of them members of the Baptist Church. They intermarry considerably with the whites, and do not increase in numbers.

The population of North Carolina by counties, as finally returned by the census of 1880, and as compared with the corresponding figures for 1870, is as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Alamance.....	14,613	11,874	Franklin.....	20,829	14,134	Pamlico †.....	6,823	.....
Alexander.....	8,355	6,868	Gaston.....	14,254	12,602	Pasquotank.....	10,969	8,181
Alleghany.....	5,456	3,691	Gates.....	8,597	7,724	Pender ‡.....	12,468	.....
Anson.....	17,994	12,428	Graham *.....	2,335	.....	Perquimans.....	9,466	7,945
Ashe.....	14,437	9,578	Granville.....	31,286	24,381	Person.....	13,719	11,170
Beaufort.....	17,474	13,011	Greene.....	10,037	8,687	Pitt.....	21,794	17,276
Bertie.....	16,899	12,950	Guilford.....	23,535	21,736	Polk.....	5,062	4,819
Bladen.....	16,153	12,831	Halifax.....	30,300	20,408	Randolph.....	20,836	17,551
Brunswick.....	9,389	7,754	Harnett.....	10,862	8,895	Richmond.....	18,245	12,882
Buncombe.....	21,909	15,412	Haywood.....	10,271	7,921	Robeson.....	23,880	16,262
Burke.....	12,809	9,777	Henderson.....	10,281	7,706	Rockingham.....	21,744	15,708
Cabarrus.....	14,964	11,954	Hertford.....	11,843	9,273	Rowan.....	19,965	16,810
Caldwell.....	10,291	8,476	Hyde.....	7,765	6,445	Rutherford.....	15,198	13,121
Camden.....	6,274	5,361	Fredell.....	22,675	16,931	Sampson.....	22,894	16,436
Cartaret.....	9,784	9,010	Jackson.....	7,343	6,683	Stanley.....	10,505	8,315
Caswell.....	17,325	16,081	Johnston.....	23,461	16,897	Stokes.....	15,353	11,203
Catawba.....	14,946	10,934	Jones.....	7,491	5,002	Surry.....	15,802	11,252
Chatham.....	23,453	19,723	Lenoir.....	15,344	10,434	Swain §.....	3,784	.....
Cherokee.....	8,182	8,080	Lincoln.....	11,061	9,573	Transylvania.....	5,340	3,536
Chowan.....	7,900	6,450	McDowell.....	9,386	7,592	Tyrrell.....	4,545	4,173
Clay.....	3,316	2,461	Macon.....	8,064	6,615	Union.....	18,056	12,217
Cleveland.....	16,571	12,696	Madison.....	12,510	8,192	Wake.....	47,939	35,617
Columbus.....	14,439	8,474	Martin.....	13,140	9,647	Warren.....	22,619	17,768
Craven.....	19,729	20,516	Mecklenburg.....	34,175	24,299	Washington.....	8,928	6,516
Cumberland.....	23,536	17,035	Mitchell.....	9,435	4,705	Watauga.....	8,160	5,287
Currituck.....	6,476	5,131	Montgomery.....	9,374	7,437	Wayne.....	24,951	18,144
Dare.....	3,243	2,778	Moore.....	16,821	12,040	Wilkes.....	19,181	15,539
Davidson.....	20,333	17,414	Nash.....	17,731	11,077	Wilson.....	16,064	12,258
Davie.....	11,096	9,620	New Hanover.....	21,376	27,973	Yadkin.....	12,420	10,697
Duplin.....	18,773	15,542	Northampton.....	20,032	14,749	Yancey.....	7,494	5,909
Edgecombe.....	26,181	22,970	Onslow.....	9,329	7,569			
Forsyth.....	13,070	13,050	Orange.....	23,698	17,507			
The State.....							1,399,750	1,071,361

NOXIOUS INSECTS AND PLANT PARASITES. Recent observers have detected bacterial life in common fruit-tree diseases, and have found experimental evidence connecting the disease with the microphytic germs. Professor T. J. Burril detected moving microscopic objects in the juices of blighted pear-trees in 1877, which he afterward discovered to be bacteria. In 1880 he found similar organisms associated with the disease of apple-trees called twig-blight. Drops of a whitish, viscid substance, which after a while became brown, oozing from diseased parts, were found to be largely composed of the microphytes, which were double or single ovoid bacteria, each about .001 millimetre thick, and .0015 millimetre long. The starch-granules, which are abundant in healthy cells, were absent in the infected tis-

ues, and the products of their fermentation were revealed by tests. The manner in which the bacteria penetrate the cell-walls is problematical. It must be in the germ form that they pass from one cell to another. The germs are not carried by the circulating sap, or water, because the disease spreads evenly in all directions from its starting-point.

Inoculation of healthy trees by puncturing with a needle or knife-point dipped in the viscid exudation led to the development of the disease, in about half the cases, after ten or twelve days, or longer. External applications of the virus to the bark or leaves produced no effects. The virus from the apple-blight produced the fire-blight in pear-trees, and was more fatal in its action than that from the pear-blight itself.

By similar evidence the yellows in peach-trees has been traced to micro-organisms. In the cells of the infected shoots few starch-cells, but a multitude of bacteria, are present. They are of oval form, not much longer than wide, and joined into straight rods. The Lombardy

* In 1872, from part of Cherokee; in 1874 boundary with Yancey changed.

† In 1872, from part of Craven; in 1874 and 1875, parts from Beaufort; in 1875 boundary with Craven changed.

‡ In 1875, from part of New Hanover.

§ In 1871, from parts of Jackson and Macon.

poplar and the aspen are subject to similar diseases, which are found to be accompanied by the multiplication of bacteria.

The cause of the mysterious failure of sugar-beets, on land on which this crop has been raised for many years in succession, has been found to be a minute parasite, which is nourished by the decaying roots. The experiments of Kühn and others, which led to the discovery of the parasite, show that the soil first becomes infertile in patches, where the plants begin to die, from which centers the beet-sickness, as the phenomenon is called, extends over the entire field, and is capable of spreading through whole districts. It was supposed until the recent discovery, as it is in the cases of other crops which languish or fail after repeated plantings on the same soil, that it was due to the exhaustion of certain soluble materials in the soil which are specially required for the particular plant. Analyses of soils showed no deficiency of nutrient elements in the case of the beet-sickness. Chicory, which requires the same kind of soil as the beet, flourished in the sickened soil. Other vegetables of many kinds planted in an infested field were attacked. The roots of the young beets, it was found, were attacked by the parasites, and their larvæ lodge in them. Of different remedies tried, the most practicable is to sow the field thickly with beets, and then pull up the entire young crop, and, by burning it, destroy the insects after they have pierced the roots.

Experiments with prussic or hydrocyanic acid, conducted by Dr. Franz König, prove that it is the best disinfectant for plants infested with animal parasites. An atmosphere in which only one third gramme of the acid is diffused in every cubic metre of the air, a quantity which is not fatal to the tenderest parts of plants, will destroy the phylloxera and its eggs in half an hour's exposure. Prussic acid is less injurious to some plants than to others, but its action on animals is much more violent than on any plants. Large winged insects die in an atmosphere containing only one tenth gramme to the cubic metre. Robust, woody plants, with their leaves and flowers, can stand a gramme of the acid to the cubic metre of air.

The remedies for phylloxera, brought forward at a congress called at Bordeaux for the discussion of the subject, were submersion of the vineyards, and the application of bisulphide of carbon and sulpho-carbonates. The plans of grafting French varieties of grape upon American stems, or American vines on French stems, are found to produce plants which are usually proof against the insect-pest.

Two kinds of insecticides are known which are completely effective, and at the same time harmless to vegetation. These are fatty substances, and a certain group of composite flowers. An oily substance, when it can be applied so as to cover the surface of the insect's body in a film, causes instantaneous death by suffocation. It closes the spiracles, and excludes the

air from the tracheal tubes. There are, however, but few cases in which this insecticide can be administered. The other remedy against destructive insects finds a very extensive application in the form of a powder called commonly "Persian insect-powder." It is made from flowers of the *Anthemis* group. It destroys insects by paralyzing their nervous system. The mode of its action is not understood. To all other life it seems to be almost innocuous. The most efficacious of these flowers are species of the genus *Pyrethrum*. The common *Artemisia filifolia* is sufficiently powerful to destroy delicate insect forms. Instances have occurred recently in which the Persian powder has acted injuriously on vertebrate animals.

NUTRITIVE INGREDIENTS AND VALUES OF THE FOOD WE EAT. Among the numerous branches of biological research, one, and by no means the least interesting and important, is the study of foods and nutrition. Within the past fifteen years especially, a very large amount of scientific labor has been devoted to the investigation of the composition of foods and the function of their ingredients in the animal economy. Indeed, very few persons this side of the Atlantic have any just conception of the magnitude of this work and its results. And, though many of the most important problems are still unsolved and must, because of their complexity, long remain so, yet enough has been done to give us a tolerably clear insight into the processes by which the food we eat supplies our bodily wants.

The bulk of our best definite knowledge of these matters comes from direct experiments in which animals are supplied with food of various kinds, and the effects noted. The food, the excrement, solid and liquid, and in some cases the inhaled and exhaled air, are measured, weighed, and analyzed. Many trials have been made with different animals, horses, oxen, cows, sheep, goats, swine, dogs, rabbits, birds, and the like, and a considerable number with human beings of both sexes and different ages. In the philosophical planning of the researches, in the ingenuity manifested in devising apparatus, in the accuracy, thoroughness, patience in execution, and magnitude of the work, as well as in the distinguished genius of many of the workers, chemico-physiological science has here, as in other specialties, assumed the highest rank among the sciences of our time. With the rest it has brought us where we can estimate the nutritive values of foods from their chemical composition with so near an approach to accuracy that in Germany, where the best research is done, tables, giving in figures the composition and nutritive valuations of foods, have been prepared by eminent physiologists, and are coming into general use among the people. To give a brief account of the outcome of such work as this in its relation to the nutritive values of foods is the chief object of this article.

The Nutrients of Foods and their Functions in Nutrition.—First, however, it may be well to recapitulate very briefly some of the main results of later research respecting the nutritive ingredients of foods, and their work and uses in nutrition. This is the more proper, since the more lately ascertained facts have not only added greatly to our knowledge, but the older theories have thereby been materially modified; and, further, because the later views have not yet become current in the English language.

We eat meat and fish, potatoes and bread, to build up our bodies, repair their wastes, and supply them with fuel for the production of heat and force. In other words, our food supplies, besides water and mineral substances, several classes of nutrients, of which the most important are albuminoids or proteids, carbohydrates and fats, and whose functions are to be transformed into the various tissues and fluids of the body, muscle and fat, blood and bone, and by their decomposition and consumption to produce heat and force.

Albuminoids, Proteids, or Protein Compounds.—These contain carbon, oxygen, hydrogen, and nitrogen, the latter element being characteristic of albuminoids. Albuminoids occur in plants, as in the gluten of wheat; and in the animal body, as in the fibrinogen and fibrinoplastic substances of blood, in the fibrin of muscle, in albumen (white) of eggs, and in the casein (curd) of milk.

The albuminoids are the most important of the nutrients of foods. Not only do they share in the formation of the fatty tissues and in the supply of material for the production of animal heat and muscular power, thus performing all of the functions of the other food ingredients in the body, but they also have a work of their own in the building up of the nitrogenous tissues, muscles, tendons, cartilage, etc., in which none of the other ingredients can share.

Carbohydrates, of which we have familiar examples in sugar, starch, and cellulose, differ from the albuminoids in that they have no nitrogen. They have, according to the best experimental evidence, no share in the formation of nitrogenous tissues in the body. That they are transformed into fats to any considerable extent is at least questionable. Their chief use in food seems to be to supply fuel for the production of animal heat, and very probably of muscular energy. They also do a most useful duty in preventing the consumption of albuminoids and fats, by being consumed themselves. They are very important constituents of food, but less so than the albuminoids.

Fats are familiar to us in the vegetable fats and oils, as linseed and olive oils; in fat meat, tallow and lard, and in butter, etc. Fats, like carbohydrates, consist of carbon, oxygen, and hydrogen, and are destitute of nitrogen. The fats of food are stored in the body as fats, transformed into carbohydrates, and serve as

fuel to produce heat and probably muscular force, but do not form nitrogenous tissue. They are more valuable than the carbohydrates, because richer in carbon and hydrogen, the elements which give value to fuel, and because they supply the body with fats.

Besides the nutrients named above, there are others of inferior but nevertheless not inconsiderable importance in nutrition, as kreatin, sarkin, inosite, and so on. The proportions of these are, however, so small and their functions so little understood, that it is at present customary to leave them out of account or group them with the other nutrients in estimating the nutritive values of foods. Classifying the organic nutrients of food thus roughly, the chief uses of each class in supplying the body with material for its tissues and fluids, and for the production of heat and muscular force, may be briefly outlined as follows:

Nutrients.	Functions in Nutrition.
ALBUMINOIDS. PROTEIN COM- POUNDS.	{ Are transformed into ALBUMINOIDS. " " " FATS. " " " CARBOHYDRATES. Serve for FUEL.
CARBOHYDRATES.	Serve for FUEL.
FATS.	{ Are transformed into FATS. " " " CARBOHYDRATES. Serve for FUEL.

Proportions of Nutrients in Different Foods.

—As the functions of the nutritive ingredients have become better understood, more and more attention has naturally been devoted to the investigation of the composition of foods, and the nature and proportions of their various constituents; so that, although only the later work has been done by methods fully in accord with the demands of chemical and physiological science as it now exists, yet a large amount of reliable information has already accumulated. Many hundreds of analyses of vegetable and animal food products have been executed in Europe, especially in Germany. In this country the analytical investigation of this sort has not until within a few years past been at all extensive, and that which has been done has been confined almost exclusively to materials used for feeding domestic animals.

Under the auspices of the Smithsonian Institution and the United States Fish Commission, an investigation of the chemical composition and nutritive values of some of our American foods has been undertaken in the chemical laboratory of Wesleyan University, Middletown, Connecticut, under the direction of Professor W. O. Atwater. This work has begun with analyses of fish, but is being extended to other animal and to vegetable foods. The research has been going on for some time, and now includes chemical analyses of some two hundred specimens of the flesh of fish, oysters, lobsters, and other "fish-foods," with a number of meats of various sorts, and some vegetable products. Some of the results, along with those of similar European products, are given in the table herewith:

672 NUTRITIVE INGREDIENTS AND VALUES OF THE FOOD WE EAT.

COMPOSITION AND NUTRITIVE VALUATION OF FOODS.

KINDS OF FOOD.	Total edible solids, actual nutrients, in samples, as analyzed.	IN FLESH FREE FROM BONE AND OTHER WASTE.						Nutritive valuation, medium beef = 100.
		Water.	NUTRIENTS.				Nutritive ratio.	
			Albuminoids, protein.	Extractives, carbohydrates.	Extractives, carbohydrates.	Ash.		
MEAT (FRESH).	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	As 1 :	Per cent.
Beef, lean.....	76.7	20.6	1.5	....	....	1.2	0.2	91.3
“ medium.....	72.2	21.4	5.2	....	....	1.2	0.4	100.0
“ fat.....	54.8	16.9	27.2	....	....	1.1	2.8	112.0
Veal, lean.....	78.8	19.9	0.8	....	....	0.5	0.1	87.6
“ fat.....	72.3	18.9	7.4	0.1	....	1.3	0.7	92.4
Mutton, medium.....	76.0	18.1	5.7	....	....	1.2	0.6	86.6
“ fat.....	47.9	14.8	36.4	0.1	....	0.8	4.3	116.5
Pork, lean.....	72.4	19.7	6.8	....	....	1.1	0.6	96.0
“ fat.....	47.4	14.6	37.3	....	....	0.7	4.5	116.0
MEAT (PREPARED).								
Smoked beef.....	47.7	27.1	15.4	....	....	10.6	1.0	146.0
Smoked ham.....	28.0	24.0	36.5	1.5	....	10.1	2.7	157.0
Smoked tongue.....	35.7	24.3	31.6	....	....	8.5	0.7	150.7
Salt pork.....	9.1	9.7	75.8	....	....	5.4	13.6	151.3
GAME—FOWL, ETC.								
Venison.....	75.8	19.8	1.9	1.4	....	1.1	0.2	88.8
Hen, lean.....	76.2	19.7	1.4	1.3	....	1.4	0.2	88.3
“ fat.....	70.1	18.5	9.3	1.2	....	0.9	0.9	93.9
Chicken, lean.....	70.0	23.3	3.2	2.5	....	1.0	0.3	107.5
Goose.....	35.0	15.9	45.6	....	....	0.5	5.0	134.4
MILK, EGGS, ETC.								
Cow's milk.....	87.4	3.4	3.7	4.8	....	0.7	3.4	23.8
Cow's milk, skimmed.....	90.6	3.1	0.8	4.8	....	0.7	2.0	18.5
Cow's milk, cream.....	66.4	3.7	25.7	3.5	....	0.6	13.1	56.1
Butter.....	14.1	0.9	83.1	0.7	....	1.2	169.9	124.0
Cheese, skimmed milk.....	45.0	32.7	8.4	6.8	....	4.1	0.7	159.3
Cheese, whole milk.....	35.8	27.2	30.4	2.5	....	4.1	2.1	163.0
Buttermilk.....	90.6	3.8	1.2	3.7	....	0.7	1.6	21.3
Hen's eggs.....	73.7	12.5	12.1	0.6	....	1.1	1.7	72.2
FISH (FRESH).								
Halibut.....	21.4	74.3	18.2	6.3	....	1.1	0.6	87.9
Flounder.....	4.8	83.9	14.2	0.7	....	1.2	....	62.4
Cod.....	11.8	82.5	15.9	0.2	....	1.2	....	69.1
Haddock.....	8.9	81.2	17.2	0.2	....	1.4	....	74.9
Shad.....	16.3	68.1	18.8	11.7	....	1.4	1.1	93.2
Mackerel.....	15.5	72.3	18.3	8.1	....	1.2	0.8	90.9
Blue-fish.....	11.0	73.1	19.3	1.3	....	1.3	0.1	85.4
Salmon.....	33.0	63.5	19.7	15.7	....	1.1	1.4	107.9
White-fish.....	13.7	70.1	22.1	6.2	....	1.6	0.4	105.0
Spent salmon.....	13.0	76.8	18.4	4.0	....	1.1	0.4	85.0
FISH (PREPARED).								
Salt cod.....	19.8	53.0	25.0	0.5	....	1.9	....	109.0
Boned cod.....	23.7	51.3	26.5	0.4	....	1.9	....	114.8
Dried cod.....	....	15.3	78.0	1.9	....	8.3	....	340.0
Smoked halibut.....	32.5	50.9	18.4	15.0	....	1.6	1.5	102.2
Smoked herring.....	23.9	35.6	31.6	18.7	....	2.4	1.0	163.4
Canned salmon.....	29.9	66.0	21.0	11.0	....	1.9	0.9	107.2
Salt mackerel.....	33.1	42.7	21.4	22.8	....	1.6	1.9	125.4
INVERTEBRATES (FRESH).								
Oysters.....	12.3	87.7	5.8	1.1	3.4	2.0	0.3	30.0
Scallops.....	19.7	80.3	14.8	0.2	3.4	1.4	....	67.0
Long clam.....	13.9	86.1	8.0	0.9	2.5	2.5	0.2	33.0
Round clam.....	13.8	86.2	6.6	0.4	4.2	2.7	0.1	32.6
Lobster.....	6.8	82.7	13.6	2.0	....	1.7	0.3	62.0
Crawfish.....	2.3	81.2	16.0	0.5	1.0	1.3	....	70.7
INVERTEBRATES (PREPARED).								
“Cove” or canned oysters.....	13.9	86.1	7.9	2.0	2.5	1.4	0.4	39.0
Canned lobster.....	20.6	79.4	16.8	4.6	....	2.8	0.5	79.1

VEGETABLE FOODS.

KINDS OF FOOD.	Water.	NUTRIENTS.					Nutritive ratio.	Nutritive valuation, fine wheat-flour = 100.
		Albuminoids, protein.	Fats.	Carbo-hydrates.	Crude fiber.	Ash.		
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	As 1 :	Per cent.
Wheat-flour, fine.....	14.9	8.9	1.1	74.2	0.3	0.6	8.5	100.0
coarse.....	12.2	11.3	1.2	73.7	0.8	0.8	6.7	99.4
Rye-flour.....	14.2	11.0	1.9	69.8	1.6	1.5	6.7	106.0
Oatmeal.....	10.0	14.3	5.6	65.8	2.2	2.0	5.3	121.6
Corn-meal (malze).....	16.0	8.2	3.5	69.6	1.6	1.3	9.4	97.3
Bean-meal.....	13.6	23.1	2.3	53.6	3.8	3.5	2.5	143.4
Rice.....	13.2	7.8	0.7	76.4	0.8	1.1	9.9	96.8
Potatoes.....	75.8	1.8	0.2	20.5	0.7	1.0	11.6	24.8
Sweet-potatoes.....	75.8	1.5	0.4	20.0	1.1	1.2	13.6	23.5
Carrots.....	87.7	1.0	0.2	9.1	1.2	0.8	9.1	12.2
Turnips.....	91.2	1.0	0.2	6.0	0.9	0.7	6.5	8.9
Melons.....	95.2	1.1	0.6	1.4	1.1	0.6	2.4	7.0
Pumpkins.....	90.0	0.7	0.1	7.3	1.3	0.6	10.2	9.0
Cauliflower.....	90.4	2.5	0.4	5.0	0.9	0.8	2.2	15.6
Cabbage.....	90.0	1.9	0.2	4.9	1.3	1.2	2.3	27.5
Starch.....	14.8	1.5	....	83.3	....	0.4	....	75.2
Cane-sugar.....	2.2	0.3	....	96.7	....	0.8	....	81.4
Beet-sugar.....	3.0	....	....	95.6	....	1.4	....	79.3
Molasses.....	24.6	....	....	73.1	....	2.3	....	60.7
Honey.....	16.1	1.3	....	81.4	....	0.1	....	72.8

Animal Foods.—The figures for meat, game, fowl, milk, eggs, etc., as well as those for vegetable food, are from European analyses, which are far more numerous at present than the American. Those of fish and invertebrates, on the other hand, are American—the number of analyses made here being already several times as large as the European.

The first column of the table of animal foods gives the amounts of edible solids, actual nutrients in the samples as analyzed. The European figures do not include these data. With the fish and invertebrates, however, they are given.

Considered from the stand-point of the food-value, meats, fish, etc., as we buy them in the markets, consist of—1. Flesh or edible portion; 2. Waste—bones, skin, entrails, etc. The proportions of waste matter in different kinds of fish, and in different samples of the same kind in different condition, vary widely. Thus, a sample of flounder contained 68 per cent of waste matter and only 32 per cent of flesh, while one of halibut-steak had only 18 per cent of waste and 82 per cent of edible materials. Among those with the most waste and least edible flesh are the porgy, bass, perch, lobster, and oyster. Among those with the least waste are fat shad, fat mackerel, and dried and salt fish.

Coming to the edible portion, the flesh, we find this to consist of—1, water; 2, solids—actual nutritive substances. The proportions of water and solids in the various kinds of flesh are much more variable than most people would suppose. Thus, we find the proportion of water in meats to vary from one half or less in the fatter to three fourths or more in the leaner sorts. Again, the flesh of flounder has 85 per cent of water and only 15 per cent of solids, while that of salmon has 36½ per cent of solids and 63½ per cent of water; and the flesh of dried, smoked, and salt fish has still less water. Among the more watery kinds of fish are the flounder, cod, striped bass, and blue-fish. Among those with less water and more solids are mackerel, shad, salmon, and salt and dried fish. In brief, as compared with ordinary meats, the flesh of fish generally, though not always, contains more water.

To get the actual nutritive substance in a sample of fish we must first subtract the waste—the entrails, bones, skin, etc.—which leaves the flesh; then we must allow for the water in the flesh. What remains will be the total edible solids, or actual nutritive substance, in the sample. Some of the detailed statistics of the proportions of total nutrients in fish and invertebrates will be of interest. The following data are from a report of the investigation by Professor Atwater above referred to, in the last report of the United States Commissioner of Fish and Fisheries. The figures apply to the samples of fish as retailed, in some cases whole, in others dressed:

TOTAL EDIBLE SOLIDS. ACTUAL NUTRIENTS IN SAMPLES OF FISH, AS RECEIVED FROM MARKETS.

KIND OF FISH, AND PORTION ANALYZED.	Percentages of nutrients. Individual samples.	Averages.
	Per cent.	Per ct.
California salmon, edible portion of anterior part.....	89.89	
Salmon, entrails removed.....	26.57	
Smoked halibut.....	81.63	
Salt mackerel.....	80.97	
Boned cod, salt.....	80.91	
Canned salmon.....	29.95	
Smoked herring.....	25.66	
Eels, salt-water; skin, head, and entrails removed.....	22.50	
Halibut, section of body, fat.....	27.13	
Halibut, posterior part of body, lean.....	15.67	21.40
Spanish mackerel, whole.....	20.65	
Salt cod, "boat fish".....	20.99	
Salt cod, "channel fish".....	19.09	
Shad, whole.....	18.56	
Shad, whole.....	15.51	
Shad, whole.....	14.81	16.29
Turbot, whole.....	15.61	
Mackerel, whole.....	23.95	
Mackerel, whole.....	18.24	
Mackerel, whole.....	12.97	
Mackerel, whole, lean.....	11.76	15.48
Salmon-trout, whole, lean.....	14.38	
White-fish, whole.....	13.69	
Spent salmon, female, whole.....	14.87	
Spent salmon, female, whole.....	12.17	13.52
Muskallonge, whole.....	12.52	
Smelt, whole.....	12.51	
Sheep's-head, entrails removed.....	11.99	
Alewives, whole.....	11.95	
Herring, whole.....	11.52	
Cod, head and entrails removed.....	11.92	
Cod, head and entrails removed.....	10.98	11.45
Spent landlocked salmon, male, whole.....	10.97	
Spent landlocked salmon, female, whole.....	10.74	10.86
Brook-trout, cultivated, whole.....	10.77	
Black-fish, whole.....	10.72	
Red snapper, entrails removed.....	10.87	
Red snapper, whole.....	9.83	
Porgy, whole.....	11.73	
Porgy, whole.....	7.78	9.76
White perch, whole.....	10.08	
White perch, whole.....	8.73	9.41
Black bass, whole.....	9.57	
Striped bass, whole.....	9.01	
Striped bass, whole.....	8.87	8.94
Haddock, entrails removed.....	9.07	
Haddock, entrails removed.....	8.63	8.88
Yellow pike-perch, whole.....	8.45	
Flounder, entrails removed.....	7.06	
Flounder, whole.....	4.87	

Foul or Spent Fish versus the same in Good Condition.—Some very interesting results are found in comparing the foul or spent fish with the same in good condition. As it becomes lean, the fish loses nutritive value in three ways: first, in total loss of weight; second, in relative increase of waste and decrease of flesh; and, third, in the deterioration of the quality of the flesh, which, in the lean fish, is more watery and considerably less valuable, pound for pound, than the flesh of the same fish in good condition. Thus, the flesh of spent salmon is rated in the last column at 85, while that of fat salmon came up to 108. There is in this a strong argument in favor of legislation against the capture of fish out of season.

Fish as Brain-Food.—The report referred to contains the following statement regarding the wide-spread notion that fish is particularly valuable for brain-food on account of a large con-

tent of phosphorus: "The percentages of phosphorus in the analyses above reported are not larger than are found, according to the best analyses, in the flesh of other animals used for food. The number of reliable determinations of flesh in the latter are, however, small, and it is, though very improbable, yet within the range of possibility that a more complete investigation of the subject might reveal a smaller proportion of phosphorus in meats than in fish. But, even if the fish were richer in phosphorus, there is no proof that it would, on

that account, be better for brain-food. The questions of the nourishment of the brain and the sources of intellectual energy are too indeterminate to allow decisive statements, and too abstruse for speedy solution in the present condition of our knowledge."

Oysters.—From the same source we quote similar statistics regarding oysters from various localities. It should be observed, however, that the analyses are as yet insufficient to show how accurately these figures express the average composition of oysters of the kinds named:

PROPORTIONS OF FLESH, OF LIQUIDS, AND OF TOTAL SHELL CONTENTS (FLESH AND LIQUIDS) IN SAMPLES OF OYSTERS.

FLESH IN WHOLE OYSTER.	Per cent.	LIQUIDS IN WHOLE OYSTER.	Per cent.	TOTAL SHELL CONTENTS OF OYSTERS.	Per cent.
Blue Point.....	13·39	Stony Creek.....	11·81	East River.....	20·28
Shrewsbury.....	12·64	Stony Creek.....	11·38	Buzzard's Bay.....	20·01
Fair Haven.....	12·63	East River.....	10·01	Stony Creek.....	19·15
Buzzard's Bay.....	12·50	Rockaway.....	7·72	Stony Creek.....	18·90
Providence River.....	10·88	Buzzard's Bay.....	7·50	Blue Point.....	18·62
Rockaway.....	10·68	Rappahannock River...	7·31	Rockaway.....	18·40
East River.....	10·27	James River.....	7·29	Fair Haven.....	18·06
Staten Island.....	9·13	Staten Island.....	7·10	Shrewsbury.....	17·52
Rappahannock River...	7·86	Norfolk.....	6·52	Providence River.....	17·00
Stony Creek.....	7·52	Providence River.....	6·12	Staten Island.....	16·23
Stony Creek.....	7·34	Potomac River.....	5·64	Rappahannock River...	15·17
Potomac River.....	6·51	Fair Haven.....	5·43	James River.....	13·79
James River.....	6·50	Blue Point.....	5·23	Potomac River.....	12·15
Norfolk.....	4·66	Shrewsbury.....	4·88	Norfolk.....	11·18

The actual nutrients in the samples of oysters were as follows:

DRY SUBSTANCE IN FLESH.	Per cent.	DRY SUBSTANCE IN LIQUIDS.	Per cent.	DRY SUBSTANCE IN TOTAL SHELL CONTENTS, FLESH PLUS LIQUIDS.	Per cent.
Blue Point.....	23·76	Fair Haven.....	6·60	Blue Point.....	19·24
Potomac River.....	21·13	Blue Point.....	5·67	Providence River.....	15·21
Providence River.....	20·99	Providence River.....	4·95	Fair Haven.....	14·88
East River.....	20·03	Rockaway.....	4·94	Shrewsbury.....	14·63
Stony Creek.....	18·98	Shrewsbury.....	4·93	Potomac River.....	13·40
Rockaway.....	18·73	East River.....	4·56	Rockaway.....	13·02
Fair Haven.....	18·70	Potomac River.....	4·49	East River.....	12·43
Shrewsbury.....	18·35	James River.....	4·09	Buzzard's Bay.....	11·20
Stony Creek.....	17·91	Stony Creek.....	3·88	Staten Island.....	10·42
Rappahannock River...	17·86	Stony Creek.....	3·67	Rappahannock River...	10·12
James River.....	16·51	Staten Island.....	3·65	Stony Creek.....	9·96
Norfolk.....	16·14	Buzzard's Bay.....	3·60	James River.....	9·95
Buzzard's Bay.....	15·79	Norfolk.....	3·17	Stony Creek.....	9·11
Staten Island.....	15·53	Rappahannock River...	2·76	Norfolk.....	8·55

Placing the oysters in the order of the percentages of nutritive materials in the whole sample, the arrangement will be as follows. Some other invertebrates are appended for comparison:

PERCENTAGES OF NUTRITIVE MATERIALS IN WHOLE SAMPLE, INCLUDING SHELL AND SHELL CONTENTS.

	Per cent.
Oysters, Blue Point.....	8·57
" Fair Haven.....	2·69
" Providence River.....	2·58
" Shrewsbury.....	2·55
" East River.....	2·53
" Rockaway.....	2·38
" Buzzard's Bay.....	2·25
" Stony Creek.....	1·87
" Stony Creek.....	1·76
" Staten Island.....	1·68
" Potomac River.....	1·63
" Rappahannock River.....	1·56
" James River.....	1·37
" Norfolk.....	0·96
Long clams.....	7·77
Round clams.....	3·38
Lobsters.....	6·80
Crawfish.....	2·31

Proportions of Nutritive Ingredients.—Columns two to six of the table of animal foods, on page 672, show the proportions of water and of actual nutrients—protein, carbohydrates, fats, and mineral matters—in the several materials, and need no further explanation. We may, however, note three important facts which the figures illustrate: First, that, in general, the fatter kinds of flesh have more solid dry substance and less water than the leaner; second, that the flesh of fish is, in general, more watery than that of domestic animals; and, third, that otherwise the fish and meats are very similar in composition.

The seventh column shows the nutritive ratios—that is, the ratio of the nitrogenous constituents (protein) to the non-nitrogenous ones (carbohydrates and fats)—a matter of importance in judging of the fitness of a given food or food-mixture for supplying the wants of the body. A nutritive ratio of 1 to 5 is usually re-

garded as a fair one for this purpose. The familiar fact that neither lean meat nor a very starchy food, as potatoes, is by itself proper for food, but that each supplements the other and the two make an appropriate mixture, is an illustration of this principle. The nutritive ratio of the meat is too small—protein is in excess; that of the potato is too large—protein is deficient. The two together in proper proportions give the proper nutritive ratio.

Vegetable Foods.—The vegetable foods are in general more concentrated—that is, they have less waste, less water, and more dry substance, actual nutrient—than the animal foods. On the other hand, the dry substance is less valuable, weight for weight, than that of animal food, partly because it has less protein and consists largely of carbohydrates, and partly for other reasons, as is explained beyond.

Nutritive Valuations.—From the figures in the table it seems that, while “medium beef” contains 72 per cent of water, milk contains 87½ per cent. Roughly speaking, beefsteak is about three fourths and milk seven eighths water. A pound of beefsteak would thus contain four ounces of solids, and, if we assume a pint of milk to weigh a pound, a quart would contain four ounces of solids also; that is, a pound of steak and a quart of milk contain about the same weight of actual nutrients. But we know that for ordinary use the pound of beefsteak is worth more for food than the quart of milk. The reason is simple. The solids of the lean steak are nearly all albuminoid, while those of milk consist largely of fats and of milk-sugar, a carbohydrate.

The figures in the last column are intended to show how the foods compare in nutritive value, “medium beef” being taken as the standard. They are computed as ascribing certain values to the albuminoids and fats, and taking the sum in each case for the value of that particular food. The ratio here adopted, which assumes one pound of albuminoids to be equal to three pounds of fats and five of carbohydrates, is now a current one in Germany. These estimates for animal foods are based upon German market prices, beef and pork being taken as standards. The estimates for vegetable foods are in like manner based upon the composition and costs of rye-flour and potatoes. The details of the method, by which these estimates are reached would hardly be in place here. Suffice it to say that the valuations are found to accord fairly well with the actual relative costs of the nutrients in the plain, substantial foods, whose prices seem to be regulated, not by their flavor nor by the influence of the selective tastes of the wealthy, but by their actual efficacy for supplying the wants of the people—the efficacy which is tested by average experience, and formulated, in so far as it is formulated at all, by the relative prices which are paid by those classes of the community who can not afford luxuries, but must buy what

will give them the best sustenance for their money.

Dr. König, who is, as much as any one, an authority upon these matters in Germany, ascribes the following valuations to protein, fats, and carbohydrates (non-nitrogenous extrac-tives) of animal and vegetable foods, in marks per kilogramme. It will be remembered that the kilogramme is not far from 2·2 pounds, and the mark about twenty-five cents:

ONE KILOGRAMME OF	In animal foods.	In vegetable foods.
Protein.....	6·0 marks.	1·25 mark.
Fats.....	2·0 “	0·45 “
Carbohydrates.....	1·2 “	0·25 “

Thus it seems that, in the German markets, the same nutrients cost not far from five times as much in animal as in vegetable foods. Probably the ratio would be about the same in our own markets. While these data accord with general experience in showing that vegetable foods are much cheaper than animal, it is hardly right to infer that, for actual use, the disparity is as great as above indicated. A discussion of this question would be out of place here. It is worth noting, however, that, in general, the animal foods are the more digestible, that most men crave them, that even the poor will pay for them, and that, as is shown by the general use and the efficacy of meat broths and meat extracts, there seems to be something in the peculiar constituents of meats which supplies a want that vegetable foods do not wholly meet.

It should be especially observed that the valuations of animal foods in the table are as referred to “medium beef,” while those of vegetable foods are as compared with fine wheat-flour.

General Considerations affecting the Nutri-tive Values.—Three things should be said with reference to the table: 1. The figures represent general averages. Sometimes different samples of the same kind of flesh will show widely varying percentages of constituents. This is particularly true of the fats, and to a less degree of the water. Vegetable foods are of more constant composition than animal foods. 2. The figures for some of the kinds of food are based upon few analyses. More are needed to show the actual range of variation and the averages. 3. The nutritive valuations are of necessity crude, and to be relied upon rather as approximations than as accurate quantitative statements. Much more chemical and physiological investigation is needed to make our knowledge of these as complete and satisfactory as it should be. Of these considerations, perhaps the digestibility of the different foods is as important as any.

Digestibility of Foods.—The question of the digestibility of foods is very complex and difficult of solution. The data at present at hand are at best meager and ill defined. This is especially true as regards the ease or difficulty of digestion of different foods. The actual amounts digested and assimilated are capable of more

nearly accurate determination. Indeed, the percentage of the more important constituents of various foods actually digested by domestic animals of different species, breeds, sexes, and ages, and under varying circumstances, has been a matter of active experimental investigation in the German agricultural-experiment stations during the past twenty years. Briefly expressed, the method consists in weighing and analyzing both the food consumed and the solid excrement, which latter represents the amount of food undigested, the difference being the amount digested. Between one and two thousand such series of experiments have already been reported. The data thus accumulated enable us to construct tabular statements of the digestibility of a great variety of feeding-stuffs by ordinary animals, as horses, oxen, cows, sheep, and swine.

Such experiments upon human subjects, however, are rendered much more difficult by the necessity of avoiding complex mixtures of foods, in order that the digestibility of each particular food or food ingredient may be determined with certainty, and the fact that it is not easy to continue to eat the same kind of food long enough for a satisfactory experiment. No matter how palatable a simple food may be to a man at first, it has been found that it will almost certainly become repugnant to him after four or five days. In consequence, the digestive functions are disturbed, and the accuracy of the trial is impaired. In the experiments now in question, it was quite exceptional to find persons, in any walk of life, who could continue to eat large quantities of simple, plain food for tolerably long periods—a fact, by-the-way, which strikingly illustrates and emphasizes the importance of a varied diet in ordinary life.

A considerable number of experiments have, however, been carried out, notwithstanding these difficulties, and have given us definite results of no little interest. In an article in the "American Agriculturist," on the "Amounts lost from Various Foods through Non-Assimilation," Professor Storer, of the School of Agriculture of Harvard University, has given the preceding table, based principally upon results of a very elaborate research by Rubner, of Munich.

This subject is so important, and withal so new to those who do not follow closely the results of the latest foreign research, that we quote further from the article referred to :

It is to be observed that the figures of the second column of the table give no more than an approximate idea of the value of each of the foods enumerated. A more precise conception of these values may be had by comparing the figures of column two with those in the third and fourth columns, which give the percentage amounts of nitrogen and of carbohydrates that have escaped assimilation. It is noteworthy that the chemical composition of dung is often very unlike that of the food from which it has been derived. It does not at all follow, for example, that the dung will be highly nitrogenized when food has been eaten which is particularly rich in nitrogenous constituents, for it may happen in this case that a large portion of the nitrogen is voided in the urine. Rubner found, for instance, 6½ per cent of nitrogen in dry excrement from a meat diet, though the flesh had contained 14 per cent of nitrogen; in dry excrement from milk he found but little more than 4 per cent of nitrogen; while he found as much as 8 per cent of nitrogen in the excrement from white bread, which, as compared with meat and milk, is a substance to be regarded as poor in nitrogen. On referring to column four of the table, it will be seen that much larger amounts of nitrogen went to waste in the case of vegetables which were themselves poor in nitrogen than in that of the so-called animal foods, such as flesh, eggs, and milk, which contain a large proportion of this element. Indeed, it is probable that the nitrogen in the animal foods is really assimilated well-nigh completely, and that the larger part of what little nitrogen is actually found in the dung from such foods is actually part and parcel of certain biliary products, secreted from the body, which have done duty in the process of digestion. In this view of the matter, such excremental nitrogen can not properly be classed with that wasted from the food through non-assimilation. Some of this biliary nitrogen occurs, of course, in all excrement, about as much in one kind as in another, and a mental reservation must always be made on account of it.

Several curious points of detail have been noticed in these researches. It appears, for example, that hard-boiled eggs are assimilated by healthy men just as completely as roast beef is; though it may none the less be true that the flesh is digested and assimilated in less time than the egg, and that the organs of digestion are put to less trouble in dealing with it. It has been shown also, by several different observers, that bread alone is an insufficient food. On a bread-diet the body gives out each day more nitrogen than is assimilated from the food, and the coarser the bread so much the worse for the consumer. It appears from the table that milk is not so completely assimilated by adults as would have been supposed at first sight. Milk is distinctly inferior to beef and eggs in this respect, and is even worse than some of the foods of vegetable origin. The reason of this peculiarity appears to depend in good part upon the large amount of ash-ingredients that are contained in milk, and which are not assimilated by the body. This remark applies particularly to lime, which is abundant in milk, and which passes out from the body in the solid

KIND OF FOOD EATEN.	Percentage of the dry food lost as excrement.	PERCENTAGES OF THE	
		Nitrogen*	Carbo- hydrates
		Of the foods which go to waste in the excrement.	
Mixed diet.....	5½	?	?
Flesh.....	5 or 6	2 or 3	....
Eggs.....	5½	2½	....
Milk.....	8 to 10	7 to 12	....
Milk with cheese.....	6 to 11	8 to 5	....
Legumes.....	?	10½	....
Rice.....	4	25	1
Hominy.....	6½	19	8½
Potatoes.....	9½	32	7½
Macaroni.....	4½	17	1½
Macaroni and gluten.....	5½	11	2½
A kind of cake called "Spätzel".....	5	20½	1½
Butter, with some bread and beef.....	7	11	6
Fat bacon, with some bread and beef.....	8½ to 9½	12 to 14	2 to 6
Butter and bacon, with some bread and beef.....	10½	9	7
White bread.....	8½ to 5½	19 to 26	1 to 1½
Coarse rye-bread (black bread).....	15	32	11
Cabbage.....	15	18½	15½
Yellow beets.....	21	39	18
Beer.....	5½	?	?

* Protein.

rather than in the liquid excrement. On leaving the ash-ingredients wholly out of the account, it appeared that the dry organic matter of milk was assimilated almost as well as that of flesh and eggs; though the percentage waste of nitrogen from milk is noticeably large—perhaps because of the large amount of this element which is taken into the digestive tract when nothing but milk is eaten. There is, of course, a limit to the digestibility of every food, milk included. Speaking in general terms, however, it is simply the ash-ingredients in milk that are not needed by adults which are discarded. In harmony with this fact, it has been noticed that milk is assimilated more completely by children than by adults.

The completeness of the assimilation of the "carbohydrates"—that is to say, starch, from foods rich in this constituent—is specially remarkable. It appears that men are able to digest and absorb very large quantities of starch when it is presented to them in suitable forms, as in rice, white bread, and macaroni; unless, indeed, a great deal of fat is eaten at the same time with the starch, in which event some of the latter is apt to escape digestion. In the case of potatoes, black bread, beets, and cabbage, on the other hand, the carbohydrates are utilized much less completely; doubtless because they are of less digestible kinds in the vegetables, and also because each of the foods last mentioned produces large quantities of bulky, watery excrement which passes rapidly through the intestines, and carries with it much carbohydrate and other material, which would doubtless have been assimilated but for lack of time. Not only are the intestines overburdened by these coarse foods, but the partially digested material is subject to fermentations which produce butyric and lactic acids, and a quantity of gases, all of which appear to hasten the evacuation of the intestines, and consequently occasion less complete assimilation of the constituents of the food than would otherwise occur. Any solid, non-digestible substance added to food, such as bran, for example, or cellulose prepared from straw, makes the assimilation of the digestible constituents of the food less complete than it would be if the indigestible substance were absent. Of a given amount of starch, that would be completely assimilated if eaten in the shape of rice, white bread, or macaroni, no inconsiderable portion goes to waste if it be eaten in the form of black bread. In experiments where the diet consisted of beets alone, which were eaten, of course, in large quantities, the intestines were so overloaded that excrement began to be discharged five or six hours after the first meal was eaten.

Rice is assimilated pretty well, particularly as regards its starch (carbohydrates). Indeed, in so far as dry substance goes, rice is assimilated as completely as flesh; it is the nitrogenous constituents chiefly which fail to be absorbed. So too with Indian corn; a good deal of its nitrogen is not assimilated, while its carbohydrates are pretty thoroughly absorbed. With potatoes, also, a very considerable part of the nitrogenous constituents are not assimilated, and the amount of excrement is large. Particularly large amounts of excrement were produced when the food consisted of beets or of cabbage. As the table shows, very considerable portions of these foods were not assimilated. As a general rule, fat is assimilated well-nigh completely, even when eaten in large quantities, though exceptions to this rule occur, and are not always easy to explain. The fat of Indian corn, for example, and that eaten with cabbage, appear to be less easily assimilated than some others. Butter is assimilated better than fat bacon, and the appearance of particles of unchanged bacon in the excrement would seem to show that the cellular envelopes of such fat

hinder its digestion; but fat from the marrow of bones, in spite of its cellular condition, is assimilated almost as completely as that in butter, though this fact may perhaps depend on the easier fluidity of the marrow fat, and it is possible withal that the cells of the marrow may be less tough than those of the bacon.

In Conclusion. Cheap versus Dear Foods.—

The figures in the last column of the tables include the following nutritive valuations of animal foods:

Beef, medium.....	100	Mackerel.....	90·9
Beef, lean.....	91·3	Red snapper.....	90·7
Beef, fat.....	116	Blue-fish.....	89·4
Beef, smoked.....	146	Striped bass.....	80·4
Pork, salted.....	151	Haddock.....	74·9
Cow's milk.....	23·8	Cod.....	69·1
Butter.....	124	Flounder.....	62·4
Cheese, skimmed milk.....	159·3	Oysters, Blue Point... ..	44·8
Cheese, whole milk... ..	163·0	Oysters, "cove" or	
Dried codfish.....	340·0	" canned ".....	39·2
Smoked herring.....	163·4	Oysters, East River... ..	31·6
Salt mackerel.....	125·4	Oysters, Virginia (trans-	
Boned cod.....	114·8	planted).....	26·1
Salt cod.....	108·9	Oysters, Norfolk.....	22·0
Salmon.....	107·9	Scallops.....	67·0
Canned salmon.....	107·2	Long clams.....	38·0
Spanish mackerel.....	105·9	Round clams.....	32·6
White-fish.....	104·5	Lobsters.....	62·0
Shad.....	98·2		

It appears, from comparison of the German analyses of meats with those thus far made of the corresponding American products, that what is given above as "medium beef" would be regarded here as rather lean. Since, however, the valuations are only relative, this is of no great moment.

These figures differ widely from the market values. But we pay for our foods in proportion, not simply to their value for nourishing our bodies, but to their abundance and their agreeableness to our palates.

It makes very little difference to a man with \$5,000 a year whether he pays 25 cents or \$5 a pound for the albuminoids of his food, but it does make a difference to the housewife whose family must live on \$500 a year. And a little definite knowledge of this sort will be of material help to her in furnishing her table economically.

The cook-books and newspapers have occasionally something to say upon these points, but their statements are apt to be as vague and far from the truth as, in the lack of authoritative information, they might be expected to be.

As already stated, the nutritive valuations above given are only approximate, since they are made with very imperfect knowledge of either the digestibility of the foods or the influence of palatability and other factors upon their nutritive value, and also because they are based upon very few analyses. But it is certain that we need to know more about these things, and that proper investigations will help us toward that knowledge.



OBITUARIES, AMERICAN. ABBOTT, JOSEPH C., was born July 15, 1825, in Concord, New Hampshire, and died in 1881. He received his academic education at Phillips Academy, Andover, Massachusetts. Afterward, for three years, under private instruction, he pursued the usual collegiate course; and then read law at Concord and Manchester, and settled in the latter place May 1, 1852. He had for six months previous been editor of the Manchester "Daily American," which position he held until February, 1857. He was editor and proprietor of the Boston "Atlas and Bee," from May 1, 1859, to May 1, 1861. He was a member of the New Hampshire State Council of the "Know-Nothing" party, and chairman of the committee which transformed the order into "Fremont Clubs," and as such supported the State Committee that was formed in May, 1856, with E. H. Rollins at its head. Mr. Abbott was early identified with the State military force. Having been appointed Adjutant and Quartermaster-General of New Hampshire, he superintended, with great energy and success, the raising and fitting out of the First and Second Regiments in the war. He also raised the Seventh Regiment, taking the commission of lieutenant-colonel. He was at the head of a brigade for more than a year, and was ever foremost in the engagements. For distinguished bravery at Fort Wagner, he was brevetted brigadier-general of United States Volunteers. In early manhood he was a member of the commission for adjusting the boundary-line between New Hampshire and Canada. He took great interest in literary and historical matters, and contributed illustrated articles to magazines. After the war, General Abbott removed to Wilmington, North Carolina, and was for a time commandant of the city. He was a member of the Constitutional Convention of that State, and was elected Republican United States Senator for a partial term, which closed in 1871. He was Collector of the Port of Wilmington under President Grant, and Inspector of the Ports along the eastern line of the Southern coast under President Hayes.

ADAMS, JOHN F., was born at Stratham, New Hampshire, May 23, 1790; died in Greenland, in that State, on June 11, 1881. Mr. Adams was the oldest Methodist minister in New Hampshire at the time of his death, and possibly in New England. He began to preach in 1812, and joined the New England Conference, which then embraced all the New England States. Sent to the back settlements of the then District of Maine, he endured many hardships in the cause of religion, traveling on horseback through ten or twenty towns, doing good, and making himself beloved wherever he went. His talents, judgment, and zeal soon

made him a leader among his brethren. He served churches which were regarded as the best appointments, such as those in Boston and Lynn, and had two terms, of four years each, as presiding elder. He was one of the pioneers in the anti-slavery cause, and was four times chosen to represent his conference in the General Conference.

BARBOUR, JOHN M., was born at Cambridge, Washington County, New York; died in New York city, December 8, 1881. Mr. Barbour's parents were humble and poor, unable to afford him the education he desired, and his early days were spent in occupations foreign to his taste. When a very young man, he went to Michigan and studied law; was first elected a justice of the peace, and served with acceptance, then was made Commissioner of Internal Improvements, and after the expiration of his term was elected County Judge, in which capacity he served eight years with popular favor and professional indorsement. In 1850 he moved to New York. Although not a brilliant man, his high character and professional worth soon established for him an enviable reputation, and in a short time he found himself the center of a profitable circle of clients. He moved slowly but surely to the front rank of his profession. In 1861 he was nominated by the Democrats as Judge of the Superior Court, and was aided somewhat by the undeserved reputation of being the author of "Barbour's Reports." He was elected by a large majority. His six years' experience on the bench secured him a re-nomination in 1867, and he was again elected by a flattering majority. His judicial career was characterized by a conscientious and unsensational endeavor to secure justice, which gained for him the confidence and esteem of his brethren of the bar, as well as of the people. This was clearly shown at the death of Chief-Justice Robertson, when Judge Barbour was unanimously chosen to preside in his place. He was an able and well-read lawyer, oftener excelling in the more quiet branches of the law which formerly came under the cognizance of the Court of Chancery, than in the active contests which come before a jury. As an authority in statutes he was considered expert and reliable. In arguing cases before him, the counsel were always certain that he gave the case careful investigation, and that his decision would be correct in its conclusions, as well as honest and conscientious. His mind was very deliberate, and not so rapid in its operation as some of his colleagues. For this reason he was better adapted to that branch of the court where cases are reviewed on appeal than where he was required to determine questions *instantly*, as in jury-trials.

BARSDALE, HARRIS, born in Holmes County,

Mississippi; died August 22, 1881. His parents removed to Yazoo City when he was an infant. He had only entered upon his sixteenth year when he became a soldier in the Southern army, as a member of the Burt Rifles of the Eighteenth Mississippi. Though of tender years and delicate frame, Mr. Barksdale fulfilled with great zeal and fidelity the arduous duties of a private until the promotion of his uncle, General William Barksdale, when he served on the staff of that commander. After the war closed, Captain Barksdale studied law, but his tastes inclined him to the profession of journalism, and in February, 1868, he formed a connection with the "Mississippi Clarion." His labors on this paper were varied, and he was equally capable in any department of its business. At all times an original writer, he seemed to reach his highest success amid the turmoil of political strife.

BEAUREGARD, AUGUSTINE TOUTANT, eldest brother of General P. G. T. Beauregard; died at San Antonio, Texas, April 11, 1881, at the age of sixty-six years. He was born in the parish of St. Bernard, Louisiana, August 8, 1815, and was educated in New York and Philadelphia to a high degree of scholarship. He married Miss Reggio, his cousin, a native of Louisiana, and a descendant of a member of the famous banking firm, Modena & Reggio. Mr. Beauregard was for many years a sugar-planter in Louisiana, but in 1853 he settled on a large stock-farm on the San Antonio River, Texas, and his death bereaves his friends of a genial companion and highly esteemed Christian gentleman.

BENTON, JAMES G., born in New Hampshire; died August 23, 1881, at Springfield, Massachusetts. Colonel Benton graduated at West Point Military Academy in July, 1842, and was promoted to brevet second-lieutenant of ordnance. He served at Watervliet Arsenal until 1848, and was then transferred to the Ordnance Bureau in Washington, where he assisted to prepare the "System of Artillery for the Land Service," and the "Ordnance Manual." He served also at Harper's Ferry Armory, Virginia; San Antonio Ordnance Depot, Texas; and commanded Charleston Armory.

BIDWELL, WALTER H., born at Farmington, Connecticut, June 21, 1798; died November, 1881. Mr. Bidwell was a graduate of Yale College, and a theological student at Yale Seminary. In 1833 he was made pastor of the Congregational Church at Medfield, Massachusetts, but five years later was compelled to resign this charge on account of the failure of his voice. He removed to Philadelphia, and in 1841 his long editorial career was commenced in the conduct of the "American National Preacher," which he edited about nineteen years. The New York "Evangelist" came into his hands in 1843, and was conducted by him for twelve years. In 1846 he became the proprietor of the "Eclectic Magazine," and about the same time proprietor and conductor

of the "American Biblical Repository." In 1860 he became the publisher and proprietor of the "American Theological Review." Two years afterward this work was incorporated with the "Presbyterian Quarterly Review," and passed into other hands. Between 1848 and 1854 he published a series of seven valuable missionary maps, of which his brother, Rev. O. B. Bidwell, was the author. In 1867 he was appointed by Secretary Seward as special commissioner of the United States to visit various points in Western Asia, and passed eight months of continuous travel in Greece, Egypt, and Palestine, Syria and Turkey, returning from Constantinople by way of the Black Sea and the Danube. Subsequently he made several other brief visits to Europe.

BROWN, REV. WILLIAM FAULKNER, born in New York city; died in New Jersey, August 22, 1881. He was educated by Protestant parents as a physician, and during the civil war served as surgeon on the United States steamer *Mystic*, at the time of the engagement between the *Monitor* and the *Merrimac*. He afterward became examining surgeon of Park Barracks, New York, and subsequently went to Rome as a newspaper correspondent, and reported the proceedings of the Vatican Council for several Catholic newspapers. He had been converted to the Catholic Church in 1857, and when he returned from Rome he entered Seton Hall College, and subsequently took clerical orders in Louisville, Kentucky. He was assigned to a parish in Georgia, where he suffered so severely from the effects of yellow fever that he was obliged to remove to the North, and in 1880 accepted the position of chaplain to St. Joseph's Hospital at Paterson. Here he remained until the time of his death.

BUTLER, BENJAMIN ISRAEL, died September 1, 1881, at Bayview, Massachusetts. He was the younger son of General Benjamin F. Butler, and a man of fair promise. Upon his graduation at West Point Military Academy, June 14, 1877, he was promoted second-lieutenant in the Eighth Cavalry, and became very popular with his regiment, exhibiting all the qualities requisite in a good soldier. He served on frontier duty at Fort Stockton, Texas, and at Grierson's Springs, in the same State, for upward of a year, when he resigned his post in the army, June 1, 1878. Later on he was admitted to the bar of Massachusetts, and practiced his profession with a fair amount of success.

CHAMBERS, WILLIAM H., died at Auburn, Alabama, July 4, 1881. Colonel Chambers by profession was a lawyer, and at one time edited a paper in Columbus, Georgia. Before the late war he practiced his profession in the city of Eufaula, and was elected to the Alabama Legislature from Barbour County, and made one of its most useful members. After returning to his old home in Russell County, a few years since, he was again elected to the Lower House of the Legislature for one term,

and then to the Senate, where he served four years with distinction. While in the Senate he was chosen Professor of Agriculture in the Agricultural Mechanical College at Auburn, for which position he was eminently fitted.

CLARK, SARAH, died at Rolla, Missouri, January 10, 1881. She was a colored woman who spent many of her numerous years in servitude in Kentucky and Missouri. About the beginning of the late war, she settled near Boonville, Missouri, where she resided till her death. Her exact age was not known, but from her statements of her life it is supposed to have been one hundred and twenty-six years. She said that before the Revolutionary War she was the mother of two children. She distinctly remembered nursing the grandfather of General Clark, Congressman from the eleventh Missouri district, and who served in the War of 1812.

COMBS, LESLIE, born in Clark County, Kentucky, November 28, 1793; died in Lexington, Kentucky, August 21, 1881, aged eighty-eight years. General Combs was the last of the generation of pioneer Indian warriors who have made Kentucky famous in song and story, and he was one of the most prominent political men of that State. His father was a Virginian and his mother a Marylander. During the War of 1812 he distinguished himself by his courage and gallantry. In the campaign that ended in the disaster at the River Raisin, he was sent by General Winchester with important dispatches to General Harrison, and, to deliver these, Combs was obliged to traverse alone a wilderness occupied by savages and covered with snow. For over a hundred miles, and suffering the greatest privations, he pursued this desolate journey and discharged the duty committed to him. In April, 1813, he was commissioned captain. He volunteered, with an Indian guide, to carry the intelligence of the approach of General Clay's forces to General Harrison, when besieged in Fort Meigs, but was overpowered in sight of the fort, and escaped to Fort Defiance. He afterward bore a conspicuous part in the defeat of Colonel Dudley, on May 5th; was wounded, and compelled to run the gantlet at Fort Miami. In 1836 he raised a regiment at his own expense for the aid of Texas, then struggling for independence. He was a lawyer of commanding ability, was frequently Auditor of the State, a member of the Legislature, and a railroad pioneer, by which he lost a large fortune. The last public office he held was that of Clerk of the State Court of Appeals. It was in defeating General Combs for Congress that John C. Breckenridge won his first success in public life. Mr. Combs was an earnest Whig, and the trusted friend of Henry Clay, and, during the canvass of 1844, made many speeches on the platforms of the North and East in behalf of his candidate.

CONDON, SAMUEL, was born in Boston in 1795, and died in that city in 1881, aged eighty-six years and six months. He served his apprenticeship as a printer in the office of the old

"Columbian Centinel." In the War of 1812 he was on board an American vessel which was captured by an English cruiser, and was confined in Dartmoor Prison six months, with some ten or eleven thousand French and Americans. After the war he entered the office of the "Evening Gazette," Boston, and subsequently opened a printing-office in that city, which he conducted successfully until he retired with a modest competency. Mr. Condon was noted for his charities, and was always seeking to discover and alleviate the wants of the poor. For a long time he was superintendent of an evening school in Boston, and was also connected with the Boston Provident Association from its foundation. He was a co-laborer in behalf of the Society for the Prevention of Pauperism, and was for three years Superintendent of the City Temporary Home.

COOKE, HENRY D., born at Sandusky City, Ohio, November 23, 1825; died at Georgetown, District of Columbia, February 29, 1881. Mr. Cooke was a son of Eleutherus Cooke, at one time a distinguished orator, and a brother of Jay Cooke, the well-known financier. He graduated at Transylvania University, Kentucky, in 1844, and began to study law, but soon turned his attention to writing for the press. In 1847 he sailed for Valparaiso, Chili, as an *attaché* to the American consul there, but was shipwrecked. This event probably led to the organization of the Pacific Mail Steamship Company. After the wreck, Mr. Cooke was detained at St. Thomas, and the idea of a successful steamship line from New York to California, by way of Panama, occurring to him, he wrote concerning it to the Philadelphia "United States Gazette" and the New York "Courier and Enquirer." The attention of the State Department was called to the correspondence by Consul W. G. Moorhead, and in about two years the steamship company was organized. Mr. Cooke afterward lived in California, where he was actively connected with shipping interests. He was the first to announce to the authorities at Washington, through a dispatch from the Military Governor of California, the discovery of gold in the Sacramento Valley. The latter part of his residence in California was not fortunate, and he returned to the East where, for some time, he was engaged in journalism. In 1856 he was a presidential elector, and in 1861 became a partner in the house of Jay Cooke & Co. Appointed the first Governor of the District of Columbia, he resigned in 1873, and had resided about twenty years in Georgetown, where he was held in high esteem as the generous friend of the public institutions of that city.

COX, MRS. HANNAH, born at Preston, Connecticut, June 25, 1776; died at Holderness, New Hampshire, August 29, 1881. Mrs. Cox was, at the time of her death, the oldest person in the State, and probably in New England; her birth is recorded in the parish register of an old Episcopal church at Preston. When she reached

the age of nine the family removed to Fairlee, Vermont, and four years later went from there to Holderness, which was her home until the time of her death. Her father was an officer in the Revolutionary War, and lived to the age of eighty-six. In her twenty-second year Hannah married Robert Cox; her husband died in 1822, leaving seven children. Mrs. Cox was of Welsh descent, and in her early life was a slender, delicate child. She attributed her length of days to a perfect control of her nervous system, joined with regular habits and active labor. After she had reached a century she proudly recalled the fact that, at the age of five, she had knitted socks for Revolutionary soldiers. Up to ninety-seven Mrs. Cox was unremittingly industrious. Near the time of her death her senses, with the exception of impaired hearing, were in good preservation. She walked without a cane, and read small print without glasses. Her exact age was one hundred and five years, two months, and four days, having been born nine days before the Declaration of Independence by the American colonies.

CUTHBERT, JOHN A., was born at Savannah, Georgia, June 3, 1788; died near Mobile, Alabama, September 22, 1881. His father was a colonel in the army of the Revolution. Mr. Cuthbert entered the freshman class at Princeton College at the age of twelve, and graduated at the age of seventeen, receiving the degree of B. A. In 1808 the degree of A. M. was conferred on him by the same college, and in 1809 he became a law-student in New York. In 1810 he was elected to the Legislature of Georgia, from Liberty County, which he continued to represent for years, either in the Senate or in the House. During the War of 1812 he commanded a volunteer company, to protect the coast of Liberty County. In 1818 Georgia elected her representatives in Congress on one general ticket, and Cuthbert was thus chosen. At that time the Missouri question occupied the attention of Congress, and Judge Cuthbert took an active and zealous part in maintaining the Southern side of it. His warmest friends at that time were William Lowndes; Galliard, President of the Senate; Bayard, Calhoun, Randolph, Clay, Decatur, and Rogers. In 1831 Judge Cuthbert became editor and subsequently proprietor of "The Federal Union," an influential paper published at Milledgeville, Georgia, and in 1837 he removed to Mobile to practice his profession. In 1840 he was elected by the Legislature of Alabama Judge of the County Court of Mobile, and in 1852 he was appointed by the Governor Judge of the Circuit Court of the same county.

DAVIDSON, GEORGE S., died March 14, 1881, at Estillville, Scott County, Virginia, aged sixty-four years. To Captain Davidson belongs the fame of having fired the first Confederate gun at the first battle of Manassas, in 1861. At that time he was first-lieutenant of

Latham's battery, and was distinguished for his bravery on the field. He subsequently organized and commanded Davidson's battery. For years after the war he lived in very moderate circumstances, but with his good character, soldierly and dignified bearing, and military record, he continued to be regarded with the peculiar interest which attached to the man who had fired the first cannon-shot in the first great battle between the North and the South.

DIMAN, J. LEWIS, born in Bristol, Rhode Island, May 1, 1831; died in Providence, Rhode Island, February 3, 1881. Mr. Diman entered Brown University at the age of sixteen. Graduating with honor in 1851, he traveled in Europe, studying several years at the Universities of Halle, Heidelberg, and Berlin. Returning to America, he graduated in 1856 at the Theological Seminary in Andover, Massachusetts, and settled as pastor of the First Congregational Church in Fall River. In 1860 he became pastor of the Harvard Church in Brookline, Massachusetts. In 1864 he was appointed Professor of History and Political Economy in Brown University. In 1870 he received the degree of D. D. In 1873 he was elected a corresponding member of the Massachusetts Historical Society. Dr. Diman was frequently called upon to deliver sermons, addresses, etc., many of which have been published. As a speaker he was always heard with interest; he held a high rank among scholars, and, as a man, he was greatly esteemed. He contributed articles to the "North American Review," the "Providence Journal," and other leading publications, edited "John Cotton's Answer to Roger Williams" in the "Publications of the Narragansett Club," and also "George Fox Digg'd out of his Burrowes," in the same series.

DIXON, NATHAN F., died April 11, 1881, at Westerly, Rhode Island. He was born in Westerly, May 1, 1812, and graduated at Brown University in 1833. He attended the law-schools at New Haven and Cambridge, and was engaged in the practice of his profession, both in Connecticut and Rhode Island, from 1840 to 1849. He was elected a Representative from Rhode Island to the Thirty-first Congress, and was one of the Governor's Council appointed by the General Assembly during the Dorr troubles of 1842. In 1844 he was a presidential elector, and in 1851 was elected as a Whig to the General Assembly of his State, where, with the exception of two years, he held office until 1859. In 1863 he went to the Thirty-eighth Congress as a Republican, and served as a member of the Committee on Commerce. He was a member of the Thirty-ninth, Fortieth, and Forty-first Congresses, and declined re-election in 1870. He, however, resumed his service in the General Assembly, being elected successively from 1872 to 1877.

DUPUY, ELIZA, died January, 1881, at New Orleans. She was descended from prominent Virginia families, and was in her youth a

teacher, but obtained considerable reputation as an author. Her first story was published when she was only fourteen, and subsequently she contributed for many years to the weekly press, and published several volumes of fiction. More fortunate than the great majority of writers, Miss Dupuy accumulated money as well as fame, and left a large sum to her heirs.

FARGO, WILLIAM G., died in Buffalo, New York, August 3, 1881. His name was identified with the express business of the United States from the year 1845, and formed a link in the circle of men like Adams, Harnden, Dinsmore, and their associates, who introduced a new feature in civilization, and brought the service of capital and labor to the door of every man, however rich or poor. At the age of thirteen young Fargo was employed to carry the mail on horseback, twice a week, from Pompey Hill, New York, by way of Watervale, Manlius, Oran, Delphi, Fabius, and Apulia, back to Pompey Hill, a circuit of about forty miles. This business compelled him to cultivate habits of promptness and persistence. From this time till 1835 he worked, as opportunity offered, for different persons, but chiefly at Watervale, in a country tavern and store. In this employment he acquired a knowledge of the routine of business, and improved himself in arithmetic by keeping accounts. During the winter he was permitted to attend the district school. In 1841 he removed to Auburn, to accept the freight agency of the Auburn and Syracuse Railroad Company, then just completed, and in 1842 he aided in the establishment of an express line between Albany and Buffalo. At this time the rails were laid to Batavia, and express packages went by stage thence to Buffalo, until the completion of the Buffalo and Attica Railroad. The express business was in its infancy then, but Mr. Fargo discerned in it the elements of great growth and expansion. In January, 1844, in company with Henry Wells and Daniel Dunning, he organized an express line from Buffalo to Detroit, by way of Cleveland, under the firm name of Wells & Co. The capital possessed by these parties consisted principally in energy, industry, and determination. The one who was able to borrow, on a short note, two hundred dollars was regarded by the firm as a financial success. At this time the only railroads west of Buffalo were the one in Ohio, from Sandusky City to Monroeville, and the one in Michigan, from Detroit to Ypsilanti. These expressmen employed the steamers on the lakes in the season of navigation, and stages and express-wagons in winter. Their business was not at first a heavy one, but steadily increased and was rapidly pushed. They extended the line to Chicago and St. Louis, and westward to Galena. After a year the partnership of Wells & Co. was dissolved and changed to Livingston & Fargo. The express business west of Buffalo was thus managed until March, 1850, when the American Express

Company was organized, and consolidated the interests of Johnston, Livingston, Wells & Co., proprietors of the line between New York and Buffalo; those of Butterfield, Wasson & Co., proprietors of a rival line between these two cities; and those of Livingston & Fargo, who owned the lines west of Buffalo. Henry Wells was the first president, and William G. Fargo the first secretary. These positions were thus held until the consolidation with the Merchants' Union Express Co., in December, 1868, when Mr. Fargo was elected president, and thus remained until his death—the company having a capital of eighteen million dollars, maintaining twenty-seven hundred offices, and giving employment to more than five thousand men, of whom six hundred were messengers. In 1851 Mr. Fargo, Henry Wells, and their associates, organized a company under the name of Wells, Fargo & Co., and commenced to do an express business between New York and San Francisco, by way of the Isthmus, and to operate interior lines on the Pacific coast. This enterprise proved successful, and was continued over this route until the completion of the Union and Central Pacific Railroads, when water was abandoned for the railways, and the management of the company transferred to San Francisco. While the control was in New York, Mr. Fargo was director and vice-president. This company operated on a capital of five million dollars. Mr. Fargo was for a time a director and vice-president of the New York Central Railroad Company, and was connected with, and a large contributor to, the enterprise of the Northern Pacific Railroad, of which he was for several years a director. He had been also a director of the Buffalo, New York and Philadelphia Railroad Company, and was largely interested in the Buffalo Coal Company and the McKean and Buffalo Railroad Company. He was a stockholder in several of the large manufacturing establishments of Buffalo. For four years he was the Mayor of Buffalo, and distinguished for his courtesy, impartiality, and executive ability. His contributions to all charitable, religious, and public enterprises were most generous. The success that crowned his useful life was in no sense accidental; remarkable decision of character, instinctive judgment of men, unflinching resolution in his purposes, allied to a rare power of organization and control, were the "stars" that influenced his career, and lighted his ascent to the topmost round of fortune's ladder.

FILLMORE, Mrs. CAROLINE, died August 11, 1881, at Buffalo, New York, aged seventy-one. Mrs. Fillmore, relict of President Fillmore, was a Miss McMichael, and afterward Mrs. McIntosh, of Albany, where she continued to reside after her marriage with the ex-President. Her life was characterized by charities both public and private, and by great physical suffering toward its close.

FITTON, Rev. JAMES, born in Boston, 1803; died in East Boston, September 15, 1881.

Father Fitton's name was familiar throughout New England, and his career may be said to have connected all the deceased Catholic priests of Boston with the time of his own death. Only four years before he died the fiftieth anniversary of his ordination was celebrated. He was educated in part under the pioneer Bishop of Boston, afterward Cardinal Cheverus, was ordained by Bishop Fenwick, and actively engaged in the work and progress that distinguished the episcopate of Bishop Fitzpatrick. He had been none the less active under Archbishop Williams. The parents of Father Fitton were married in the small Huguenot church in School Street, Boston, where the first Catholic worshipers of that city gathered. There, also, James Fitton was baptized by the Rev. Dr. Matignon the first Catholic pastor regularly settled in that city. Prior to his ordination as a priest, Father Fitton held a position as teacher in the seminary attached to the old church in Franklin Street, Boston, and among his pupils was John Williams, the present archbishop. On the 23d of December, 1827, he was ordained, and in 1828 was sent as a missionary to the Passamaquoddy Indians. Afterward he ministered to the scattered Catholics of New Hampshire and Vermont. Soon the whole territory between Boston and Long Island, New York, was placed under his care, with Hartford as the central point of his labors. The railroads were not then built, and the work involved in the charge of so large a parish can now scarcely be realized. The beginning of the Catholic College at Worcester is attributable to his efforts, as well as the publication of the first Catholic newspaper. His pastorate in East Boston began twenty-six years ago, and by his influence and exertion four churches and several schools were built up in that part of the city. Throughout his long life he retained the deep respect and esteem of the people to whom he administered, and the ecclesiastics with whom he was associated.

FOX, EDWARD, born in Portland, Maine, June 10, 1815; died December 14, 1881, at his residence in Portland. He was the son of John Fox, a merchant of Portland, and educated in the city high-school. After graduating there, he was sent to Exeter Academy, New Hampshire, where he prepared for college, and entered Harvard in 1830, at the age of fifteen. Having graduated there with honors in 1834, he immediately entered the law-school, and graduated at the age of twenty-two. He began to practice his profession at the Cumberland County bar and continued there until about the year 1849, when he removed for a short time to Cincinnati, but returned to Portland and resumed his practice. In 1862 he was appointed a Judge of the Supreme Court, but served only part of a year, when he resigned. In 1866 he was appointed to succeed Judge Ware as District Judge of the United States Court, and this position he held

until his death. His ability as a lawyer, and impartiality in his judicial career, were fully recognized by his contemporaries, and his private life was equally exemplary.

FRENCH, VIRGINIA L., died at McMinnville, Tennessee, March 31, 1881. Mrs. French, *née* Smith, was an author of creditable repute, and was born on the Eastern Shore of Maryland, in 1830. She was educated in Pennsylvania, but removed to Tennessee in 1848, and while residing at Nashville wrote much over the name "L'Inconnue." In 1852 she formed a connection with "The Southern Handbook," of New Orleans, and in 1853 married Mr. J. H. French, of McMinnville. For a time she edited "The Crusader," at Atlanta, Georgia. Among her works are "Wind-Whispers," poems published in 1856; "Iztalixo," a tragedy; and "Legends of the South."

GOBRIGHT, L. A., died May 16, 1881, in Washington, D. C., in the sixty-seventh year of his age. Mr. Gobright was one of the oldest journalists in this country, having been connected with the press of Washington more than forty-five years. For nearly thirty years he represented the New York Associated Press in Washington, but retired from active service in 1878. He was prominently identified with the "Independent Order of Odd-Fellows," and the "Oldest Inhabitants Association," of Washington, and was esteemed in all the relations of life an honest, upright, and faithful man. During the civil conflict he enjoyed the fullest confidence of President Lincoln and Secretaries Seward and Stanton, being frequently called upon to assist them in the preparation of proclamations, and other important documents, which were finally intrusted to his hands to be dispatched by telegraph. When President Andrew Johnson made his celebrated tour to the Eastern States, Mr. Gobright accompanied him, and prepared the elaborate and interesting reports which were sent to the Associated Press. He was intimate with the most noted men of both parties who have made prominent figures in public life during the past forty years, and, though often trusted with important matters of state, he never yielded to the temptation to print what had been communicated to him in confidence.

GRIGSBY, HUGH BLAIR, born November 22, 1806, in Norfolk, Virginia; died April 28, 1881, in the county of Charlotte, Virginia. Mr. Grigsby was a graduate of Yale College. He represented Norfolk in the Legislature when scarcely more than a boy, and was afterward a member of the State Convention of 1829 and 1830, with Jefferson, Madison, Monroe, and others. Subsequently he withdrew from public life, and devoted himself to literary and agricultural pursuits. He was unsurpassed for accurate information in regard to all events connected with the history of Virginia from her earliest settlement, and was President of the Virginia Historical Society, and a member of similar societies in several other States. He

was also Chancellor of William and Mary College.

HAYES, ISAAC ISRAEL, born in Chester, Pennsylvania, in 1832; died in New York, December 17, 1881. After a general education, Mr. Hayes graduated from the University of Pennsylvania in 1853, with the degree of M. D. During his studies he had become interested in the writings and intentions of Dr. Kane, and tendered him his services. In the latter part of May, 1853, he was appointed surgeon of the second Grinnell expedition, with which he sailed in the brig *Advance*. Nothing of importance to Mr. Hayes transpired until the 18th of May, 1854, when he started with a dog-sledge, in company with William Godfrey, for Cape Frazer, in latitude 79° 42'. When Dr. Kane resolved to return, finding it impossible to extricate the *Advance* from the ice which surrounded her, many of the party determined to remain with the vessel, and put up with hardships, rather than undertake a journey over the ice toward Upernavik, which would be attended with so much suffering and trial. Others, in an organized body, with J. Carl Patterson, who had experienced twenty years of Arctic life in all its phases, as their leader, commenced the lonely journey in the hope of being able to send relief to those whom they had left. Of this unsuccessful party Dr. Hayes was a member. These brave men lived three months among the Esquimaux, and returned to the brig in the middle of an Arctic night, in the dog-sledges of the natives, having traveled one hundred and fifty miles during the last forty hours of their journey back. On his return to the United States in 1855, Dr. Hayes devoted himself to the instruction of the public in what soon became a specialty with him. An enthusiast on the subject of the Arctic Sea, he knew by experience what he talked about. He had found Greenland a mass of snow and ice, toward the center of which he had approached nearer than any other man by eighty miles. He had ascended an elevation of six thousand feet, from which no land, but only a vast region of ice, was to be seen. His descriptions of the peculiar effect of the midnight sun upon men and animals, and the awful desolation of the Arctic night, whose moonlight stillness was far more terrible, were thrillingly vivid. Having roused popular curiosity as well as scientific interest, and aided by subscriptions, he fitted up, in July, 1860, the schooner *United States*, one hundred and thirty-three tons, and sailed for Melville Bay. He wintered in Port Foulke, and started northward in April, 1861. The expedition reached the west coast in May, but, having exhausted their provisions, were obliged to return, after touching land in latitude 81° 37' north, beyond which they saw open water. On his return Dr. Hayes published "*The Open Polar Sea*," received medals from the Geographical Societies of London and Paris, and then entered the army in a medical capacity. In 1869 he sailed

in the steamer *Panther*, with William Bedford, for the purpose of exploring the southern coast of Greenland, after which he published "*The Land of Desolation*," "*Cast away in the Cold*," and a history of maritime discoveries. He was a member of the New York Legislature in 1876-'77-'78-'79-'80, serving each year on important committees of the House. He resumed his pursuits as lecturer, writer, etc., and was heartily welcomed by large and appreciative audiences. Dr. Hayes possessed the essential qualities for a successful man, being quick-witted, industrious, nervous, energetic, and versatile; he spoke well, wrote better, and understood his subjects.

HOSMER, GEORGE WASHINGTON, died July 5, 1881, at Canton, Massachusetts, aged seventy-seven years. Dr. Hosmer was one of the noted preachers in the Unitarian denomination. He graduated at Harvard University in the class of 1826, and subsequently entered the Theological School, where he remained until 1830. His first settlement was at Northfield, Massachusetts, which continued for two years. He removed thence to Buffalo, New York. In 1862 he was elected President of Antioch College. While discharging the duties of that position he also held a non-resident professorship in connection with the Theological School at Meadville, Pennsylvania, lecturing there on pastoral care. He was also one of the Board of Instruction for that institution, and held both his professorship and his position in the board at the time of his death. He resigned his position as President of Antioch College in 1872, but continued his connection with the institution as Professor of History and Ethics until 1873. That year he became pastor of the Channing Religious Society of Newton, Massachusetts, this pastorate continuing until the year 1879.

JACKSON, TIMOTHY I., born at Jericho, Queens County, New York, in 1812; died at Flushing, Long Island, August 7, 1881. At the time of his death he was the oldest turf-man on Long Island, and his proficiency as a horse-breaker, trainer, and driver was known throughout the United States. His stables at Jamaica were the resort of the most noted horse-men in the country, who sought him for the value of his opinions and knowledge of the horse. He inherited to a marked degree the principles of his Quaker ancestry for honesty, sobriety, and fair dealing, and was highly respected by the community in which he lived.

LANE, HENRY S., born in Montgomery County, Kentucky, February 24, 1811; died at Crawfordsville, Indiana, June 18, 1881. His father was a popular citizen, and among the early settlers of Kentucky. When a boy Mr. Lane was employed on the farm of his father, and went to school when he had an opportunity until he was sixteen. He then attempted a higher course of study, including the classics. At the age of eighteen he began the study of the law, and was admitted to the bar when he

attained his majority. In 1854 he retired from his profession, and was never after occupied with any private business, except his interest in a banking-house. He was elected to the Legislature of Indiana in 1837, and to the lower House of Congress in 1840, and re-elected in 1842. In 1844 he advocated the claims of Clay for the presidency with great energy. Clay was his ideal statesman and the idol of his partisan adoration, and his defeat put an end to the political career of Mr. Lane for sixteen years. Two years after his retirement from Congress the Mexican War broke out, and he at once organized a company which formed part of the First Indiana Regiment, of which Lane was first major, then lieutenant-colonel. After his return from Mexico, he appeared occasionally to make campaign speeches for General Taylor in 1848, for General Scott in 1852, and for the People's party in 1854. He was at one time at the head of the Republican party in Indiana. The election of 1858 gave the Republicans the majority of both Houses of the Indiana Legislature in 1859. With the help of the "Americans," or "Old Whigs," they elected Henry S. Lane and Monroe McCarty Senators in Congress, hoping to annul the informal election of 1857. The case went to the Committee on Elections, of which Judge Butler, of South Carolina, was chairman. He reported in favor of the validity of the election of 1857, and the report was sustained. This was the first appearance of Mr. Lane as a candidate for office since 1842. At the first National Republican Convention he made a speech so admirably effective as to attract general notice; and he was made permanent president of the convention at Philadelphia, June 17, 1856, which nominated John C. Fremont for President, and William L. Dayton for Vice-President. He was nominated for Governor, February 22, 1860, and subsequently elected. On January 16th, as governor, he was elected to the United States Senate to fill a vacancy. The Senate was an indifferent field for the exercise of his peculiar talents, and he never made a figure there commensurate with his popular reputation and real ability. After the expiration of his senatorial term he retired from political life and never undertook any public service, except as Indian peace commissioner appointed by General Grant. Colonel Lane leaves to his survivors the record of a pure and genial gentleman, whose life was meliorated by the kindest charity and readiest sympathy with every phase of human suffering.

LANIER, SIDNEY, died at Lynn, North Carolina, September 8, 1881. As poet, scholar, and *littérateur*, Mr. Lanier was among the most promising of our writers. His verse was distinguished for grace, richness of diction, and rare depth of sentiment. It was as a student of English verse, however, that he excelled, and his investigations in this direction have been of great value. About a year and a half

before his death he published a little work on "The Science of English Verse," which will be of much help to students. He was also the author of editions of old legends, including "The Boy's Froissart," and "The Boy's King Arthur." "The Boy's Mabinogion" was in press when he died. In 1867 he published a novel entitled "Tiger Lilies." He came into prominence as the author of the ode written for the Centennial celebration at Philadelphia. At the time of his death he was connected as Professor of Literature with the Johns Hopkins University at Baltimore, where he lectured for some time. Through the war of the States Mr. Lanier was in the Confederate service, and at its close he was for several years principal of a school at Prattville, Alabama. His last years were passed in Baltimore.

LAVEAU, MARIE, died in New Orleans, June 15th, at the age of ninety-eight years. She was descended from distinguished parents, and was one of the most noted women of her day, celebrated alike for her beauty and accomplishments. At the age of twenty-five years she married Jacques Paris, a carpenter, who disappeared a year afterward, and was never heard from. After waiting a year for his return, Marie married Captain Christophe Glapion, a prominent man, who served with distinction in the War of 1812. Fifteen children were the result of this marriage. Five years after the death of Captain Glapion, which was in 1855, Marie became a confirmed invalid, her sufferings increasing with her years. She was remarkable for her skill in the practice of medicine, and possessed great knowledge of the healing qualities of indigenous herbs. She was a most efficient nurse, and untiring in her devotion to the sick, never flinching from the most malignant diseases. In yellow fever and cholera epidemics she was always called upon to minister to the stricken, and in every instance responded promptly. While her services were gratefully received by intelligent and cultivated people, the ignorant attributed her success as a nurse to unnatural means, and held her in constant dread. In 1853 a committee of gentlemen, appointed at a mass-meeting, waited on Marie, and requested her to nurse the fever-patients. She went and fought the pestilence where it was thickest, and many owed their recovery to her devotion. She was always kind and generous to the needy. Her great piety was one of her highest possessions. She would sit with the condemned persons in their last moments, endeavoring to turn their thoughts to the Saviour, and was often successful in obtaining a commutation of their sentences, and even a pardon for them. Up to a recent period, when she lost her memory, she was rich in interesting reminiscences of the early history of New Orleans. Her intimate acquaintance with many distinguished men of her day, the young Governor Claiborne, Aaron Burr, and others, rendered her conversation both valuable and entertaining. She loved to

recall the time when Lafayette, during his visit to New Orleans, called to see her at her home, and at parting left her a kiss. She remembered the old French General Humbert, and was one of the few who escorted to the tomb the remains of the hero of Castelbar. During the late war she was active in aiding those who suffered, whenever an opportunity offered.

MCGRATH, H. PRICE, born in Versailles, Woodford County, Kentucky, in 1813; died July, 1881, in the sixty-eighth year of his age. Mr. McGrath's reputation as a sporting-man commenced at a very early age. His father was a tailor, and taught his son that trade, but he had selected one more in accordance with his tastes, and was an adept in all games of cards. Leaving the paternal roof, he roamed over the South and West, fluctuating between affluence and poverty, after the manner of his kind. In 1852 he opened the first gambling-house in the South, at New Orleans. It was there that he conceived the idea, original with himself, of selling pools. At the outset McGrath and his partners merely acted as a depository for stakes made hand in hand, and charged no commissions. The patronage of the house grew to such an extent that it was found necessary to issue tickets of invitation, charging ten dollars for the same. One evening McGrath proposed selling choices upon a race, he acting as auctioneer, and his partners as pool-writers, and thus the business was begun. The house was at the height of its success when the war commenced, and McGrath went to New York, where he formed a copartnership with Morrissey and Chamberlain in 1863. He remained there until the spring of 1864, when, drawing \$250,000 out of the game, he returned to the South, and purchased five hundred acres of land in the blue-grass region, near Lexington. This he converted into one of the grandest stock farms, which he christened "McGrathiana." Here he entertained his friends on every Sunday preceding the spring and fall meeting of the Kentucky Association. His viands and wines were of the choicest, and his hospitality genial and liberal. To his stables belonged some of the best racers that ever graced the American turf, including Endorser, Rhynodine, Calvin, Aaron Pennington, Bob Woolly, Leonard, Aristides, Tom Bowling, and others. Upon the turf McGrath was regarded as strictly honorable, always backing his own horses heavily, and making no concealments. His good impulses and keen insight into character no doubt contributed much to his success; and his generous disposition, which prompted him to large and active charity, made him much beloved by his family, friends, and the numerous pensioners on his bounty, whom his death has sorely bereaved. His estate was worth \$200,000.

NUTT, GEORGE WASHINGTON MORRISON, born April 1, 1844, at Manchester, New Hampshire; died April 25, 1881, in New York. "Commo-

dore Nutt," as this celebrated dwarf was known to the public, was the son of a New Hampshire farmer, who held the position of city marshal in Manchester. Both of his parents were large, hearty folk, the father weighing upward of two hundred and fifty pounds. In a family of five, his brother, "Major" Rodney Nutt, and the "Commodore," were of diminutive stature; these two maintained through life the most affectionate relations. Until he was fifteen years of age the Liliputian size of George Washington Morrison had not spread beyond his native town, but some time during 1859 P. T. Barnum heard of the Manchester phenomenon, and soon made his parents so tempting an offer for his services that, in 1860, he was first presented to the New York public at Barnum's Museum, Broadway and Ann Streets, which then occupied the site of the present "Herald" building. Here he was for a long time a great attraction, not only because of his being forty-three inches in height, but by reason of his pleasing manners, lively antics, and unfailing good-humor. Unlike most dwarfs, he had a pleasant countenance, and a figure in perfect proportion to his height. In 1869, at the suggestion of Mr. Barnum, a troupe of midgets was organized for a tour around the world. The party consisted of Tom Thumb, his wife, Commodore Nutt, and Minnie Warren. During the following three years this quartet of little people visited almost every important part of the habitable globe. The inhabitants of Japan, China, Australia, India, Arabia, Egypt, France, England, Ireland, and Scotland were astonished and amused by the sight of this condensed form of humanity, and after one of the longest and most successful starring tours on record the tiny folk arrived off Sandy Hook just three years and a day after their departure from New York. The Commodore subsequently joined a company of artists styled the Deakin Liliputian Opera Troupe, to which his musical and dramatic talent lent luster; he then went into management, and, with his brother, the "Major," opened a variety show at Portland, Oregon; but, this venture not proving successful, he sold out, and went to San Francisco, where he started an entertainment of a similar nature. Before a year had passed he tired of this, and organized a theatrical company, which did not reward his enterprise with much success; he abandoned it, and entered business in Sixth Avenue, New York. Afterward he acted as superintendent at the Rockaway Pier, and still later resumed his wandering life as a showman, with a combination known as the "Tally-ho." Commodore Nutt was distinguished for large-hearted virtues that are often lacking in bigger men; his genial temper was allied to constancy and generosity that entitle his memory to the highest respect. It is stated by his cousin and manager, Mr. D. C. Purdy, that, of the \$30,000 paid him by Barnum for a three years' engagement, one half

was bestowed by the dwarf upon his brother, the "Major." After being for many years faithful to an early love, the little man married, two years before his death, a lady in Redwood City, California.

PALFREY, JOHN GORHAM, was born May 2, 1796; died April 26, 1881, in Cambridge, Massachusetts. He was a grandson of William Palfrey, who was paymaster-general in the Revolutionary army, and served as aide-de-camp to Washington on the occupation of Dorchester. The future historian of New England received his elementary education at a boarding-school kept by Mr. William Payne, the father of John Howard Payne, and entered Harvard University in the class of 1815. Jared Sparks and Theophilus Parsons were among his classmates. Mr. Palfrey devoted himself to theology, and in 1818 was ordained pastor of the Brattle Square Church, Edward Everett having preceded him. His pastorate continued about thirteen years, and was resigned in 1831, when he accepted the appointment as Dexter Professor of Sacred Literature in Harvard University. While filling this position he became editor of the "North American Review," as a means of adding to an income insufficient for the wants of his family. Besides these duties of professor and editor, he was one of three preachers in the university chapel, and dean of the theological faculty. He also undertook a work on the Hebrew Scriptures, and engaged to deliver and print courses of lectures for the Lowell Institute. These he delivered during the winters of 1839-'42. This stress of combined labors so impaired his health that he was compelled to resign the professorship. He then became a resident of Boston, devoting himself to his studies, the management of the "Review," and the publication of his Lowell lectures. In 1841 he was elected Representative to the Massachusetts Legislature, and was a member during the sessions of 1842-'43, serving as chairman of the Committee on Education. In 1843 he disposed of his interest in the "North American Review," and became a candidate for the position of Secretary of the Commonwealth, to which office he was elected by the Legislature in January, 1844; his incumbency continued four years. Although he was in 1842 a delegate to the Whig State Convention, and had made several speeches in the presidential campaign of 1844, Mr. Palfrey did not enter the field of politics with great activity until the autumn of 1845. He then became interested in the anti-slavery question; and during the summer of 1846 contributed to the Boston "Whig," of which Mr. Charles Francis Adams had just assumed the editorship, a series of twenty-six articles—"Papers on the Slave Power." These attracted much attention, and were afterward published in pamphlet form. Early in life Mr. Palfrey had manifested the very decided views which he entertained in regard to slavery, by emancipating certain slaves in Louisiana which he had inherited.

In the autumn of 1846 he was solicited to become a candidate for Congress as successor to Benjamin Thompson. Mr. Palfrey was elected on the second trial, and served from December 6, 1847, to March 3, 1849. In the election of 1848 he ran as a Free-Soil candidate, but was defeated. This contest was a remarkable one, and contributed to form the coalition by which Charles Sumner was sent to the United States Senate. Mr. Palfrey did not again enter public life until 1861. Abraham Lincoln was then President of the United States, and the party in power was that which Mr. Palfrey, with Charles Francis Adams, Horace Mann, Charles Sumner, and others of their class had assisted to form. Through Mr. Sumner's influence the position of Postmaster of Boston was given to Mr. Palfrey, on March 29, 1861, which he continued to hold until May, 1867. After his retirement he went to Europe, where he represented the United States at the Anti-slavery Congress, held in Paris in the autumn of 1867. Returning to America, he made his residence in Cambridge. The literary career of Mr. Palfrey has been, notwithstanding his industry as a writer, signalized by only one important work—his "History of New England." His publications consist chiefly of lectures and discourses. His "History of New England" was planned after his retirement from Congress, and is still incomplete, the period preceding the Revolution being merely sketched. The large edition published (1858-'64) is in three volumes, and ends with 1689. The compendious history published (1866-'73) is in four volumes, and ends with 1765. Mr. Palfrey published also a "History of Brattle Square Church," and a "Life of Colonel William Palfrey."

PECK, EBENEZER, died May 25, 1881, in Chicago. He was at one time a member of the Legislature of Lower Canada, and came to the United States about the year 1840. The most intimate relations of friendship subsisted for many years between Judge Peck and Abraham Lincoln, by whom he was appointed Judge of the Court of Claims, an office which he held for some time. It is said that no other man possessed the confidence of President Lincoln to so full an extent.

RACE, GEORGE W., born in Cleveland, Ohio, in 1814; died June 17, 1881, in New Orleans. Mr. Race arrived in Louisiana in 1840, and settled in Jackson, where he followed the business of carpenter and builder. While plying this trade by day, he made the money to attend the Centenary College at night. In this institute he studied with Judge E. T. Merrick and William H. Foster. The former was then learning the cabinet-maker's trade, while Mr. Foster was a dry-goods clerk. In college the three friends became intimate, and in 1845 Mr. Race and Mr. Foster passed an examination in law before the Supreme Court and were admitted to practice. In 1847 Race and Foster formed a partnership, and soon estab-

lished a business. At the breaking out of the war, Colonel Race was chosen captain of the City Guard, and went out with the Confederates when the city was captured by the Union forces. He served on General Hardee's staff, and only at the close of the war returned to New Orleans to resume his practice. In 1866 the firm of Race & Foster was joined by Judge Merrick, who had been Chief-Justice of the State of Louisiana. Although Mr. Race was before the public for thirty-four years, he never mingled in politics, and held no office except the position on Governor Wickliffe's staff, with the rank of colonel. He was a prominent Odd-Fellow and Mason, holding important commissions of trust in each of these organizations.

SAULSBURY, ELLI, ex-Governor of Delaware, died August, 1881. He was probably the most able and accomplished Governor that Delaware had had for several generations, and his administration was such as might have been expected from one actively engaged in public affairs from his early manhood. He was considered a model American citizen, equally faithful in the discharge of political duty, from a primary election in his own neighborhood to active participation in the National Convention of his party. As a private individual his character for honor, integrity, and Christian benevolence was without blemish. He was a warm friend of education, and was largely instrumental in establishing the Wilmington Conference Academy at Dover, which institution was actively supported by him to the end of his life.

SHELDON, REV. GEORGE, D. D., born at Northampton, Massachusetts; died at Princeton, New Jersey, June 16, 1881. Dr. Sheldon graduated at Williams College in 1835, and afterward at Andover Theological Seminary. Previous to 1848 he was eight years pastor of a Presbyterian church in South Carolina. After that time he devoted himself to the circulation of the Bible, and was Superintendent of the American Bible Society in New Jersey and Delaware. In 1862 he received the degree of D. D. from Jefferson College, Pennsylvania. He was an active member of the New Jersey Historical Society, and published an historical sketch of the colony which left Dorchester, Massachusetts, in 1796, for South Carolina and Georgia.

SMITH, DAVID M., was born in Hartland, Vermont, 1809; died at Springfield, Vermont, November, 1881. When about twelve years old he began to learn the carpenter's trade, in Gilsun, New Hampshire. At nineteen he was teaching school in Gilsun, and later on he commenced the manufacture of "awls on the haft," of which he had granted him, October 25, 1832, letters-patent that were signed by Andrew Jackson. The awl-haft manufactured under this patent was nearly, if not quite, identical with the one now known as the Aiken awl. He represented the town of Gilsun in the New Hampshire Legislature for 1840-'41, when he

moved to Springfield. In April, 1849, he patented a "combination lock," of which Hobbs, after having picked all the locks brought to him in London, said, "It can not be picked." This lock was also patented in England. At about this time he invented an improvement on the first iron lathe dog, which can now be seen in any machine-shop. A peg-splitting machine and two sewing-machines were also invented by him. Next he invented the patent clothes-pin. In 1860 he commenced the manufacture of a spring hook-and-eye, for which he also invented the machinery. The blanket-hook was also his invention. Not least among the inventions of Mr. Smith was the machinery by which his patent machines were made. Besides perfecting the ideas of other parties who secured patents, he had taken out about sixty, among which was that for the machinery now used in folding newspapers. Although his inventive genius was so comprehensive, his talents were not, as is sometimes the case, confined to inventions.

SNEAD, J. TIMBERLAKE, born near Ashland, Kentucky, June 10, 1820; died in New York, December 17, 1881. The paternal plantation of Colonel Snead adjoined that of Henry Clay, who was the early instructor and partner of Snead. In politics he was a Henry Clay Whig, and he retired from public affairs when his chief was defeated for the presidency. In 1850 he went among the Indian tribes on the Plains, and spent four years studying their character and customs. Subsequently he visited the Mormon territory, and there remained for one year. At the outbreak of the war he left Washington and joined the Confederate ranks. He was wounded three times in one battle. At one time he was attached to General Joe Johnston's command, and at another in charge of an independent command. At the close of the war he returned to Washington. Colonel Snead originated and was for a time at the head of the Fort St. Philip Canal enterprise; after that, various railroad schemes engaged his attention, and later still he organized the Combination Trust Company of Philadelphia. In connection with English capitalists, two years ago, he bought the controlling interest in the Continental Railroad Company, of which he was president at the time of his death.

SPOONER, ALDEN J., born in Brooklyn, New York; died in Hempstead, Long Island, August 2, 1881, aged seventy-three. He was the oldest son of Alden Spooner, the founder of the "Long Island City Star," and, after his father's death, he with his brother carried on the paper for many years. He was educated for the law, studying in the office of Silas Wood, at Huntington; but that profession was not congenial to his taste, although he practiced it in the Brooklyn courts for thirty years. His tastes were early turned to local history, and he wrote many articles on the Indians of Long Island. He was also a writer on literary sub-

jects, and the author of the biographies of many of Brooklyn's most noted men. His chief work, perhaps, was the founding of the Long Island Historical Society. He drew up the original circular for the society in 1863, and obtained the signatures. He contributed at once five hundred and fifty-three bound volumes and five hundred and seventy-two pamphlets as a nucleus for a library, and made many other gifts afterward. He lived to see the completion of the library edifice, at a cost of \$135,000, and the largest collection of books on local history to be found, together with a museum of natural history containing specimens of every reptile, bird, and beast that has its habitation on Long Island, or fish that swims in its waters.

STILLWELL, SILAS M., died May 16, 1881, in New York, at the age of eighty-one. He was noted as the author of the Stillwell Act, abolishing the law of imprisonment for debt, which was passed by the New York Legislature many years ago.

TAPPAN, H. P., born at Rhinebeck, New York, April 23, 1805; died at Vevay, Switzerland, November, 1881. He graduated at Union College in 1825. Subsequently he studied theology at Princeton, New Jersey, and after having been for a year associate pastor of a Dutch Reformed Church in Schenectady, New York, became in 1828 pastor of a Congregational Church in Pittsfield, Massachusetts. In 1832 Dr. Tappan became Professor of Moral Philosophy in the University of the City of New York, which position he resigned in 1838, and opened a private school. He was elected Chancellor of the University of Michigan in 1852; in 1859, corresponding member of the French Imperial Institute, and President of the American Association for the Advancement of Education. He devoted much attention to the subject of university education, and studied its system both in England and Germany. He also published a book on the freedom of the will, a treatise on university education, and other literary works.

THAXTER, EDWARD R., born in Maine; died June 29, 1881, in Naples, Italy, aged twenty-seven. Mr. Thaxter's reputation as a sculptor began in Boston. In 1878 he went to Florence, where he occupied the studio of the late American sculptor Jackson. His most important work, which he had only completed in clay, and had cast preparatory to being cut in marble, is called "Love's First Dream." This young sculptor gave promise of high attainments, and has left indications of his genius in several ideal study busts, and one marble statue called "Reproof."

VAIL, AARON S., died December 17, 1881, at Smithtown, Long Island, in the eighty-fifth year of his age. Mr. Vail was one of the oldest and most successful trout-breeders on Long Island. He owned several trout ponds and streams, and his house was a noted resort for anglers. Daniel Webster, Henry Clay, and other distin-

guished men were frequently entertained by him in the trout-fishing season.

VETROMILLE, EUGÈNE, born at Gallipoli, Italy; died at Gallipoli, August 23, 1881. Father Vetromille came to America at the age of twenty-one, and traveled so extensively and familiarly among the Indians that he was able to translate the Bible into fourteen of their languages. He was particularly interested in the Abenakis Indians, and published a book in their tongue for their benefit, entitled "Indian Good Book." He was for a long time pastor of St. Mary's Church, Machias, Maine. After his travels through Europe and the Holy Land, he published a large volume on the subject. He was a member of many scientific societies, and left in charge of the Interior Department a great mass of valuable manuscripts in regard to the various idioms of the North American Indians. In his will he leaves a certain amount of money for the benefit of the widows and orphans of the Passamaquoddy and Penobscot Indians, also a large sum to charitable institutions, and a dowry to Italian orphan girls, payable every year from the interest of five thousand dollars. He desired to have his body interred at Passamaquoddy, Maine.

WALLACE, WILLIAM ROSS, born in Lexington, Kentucky, in 1819; died in New York city, May 5, 1881. He commenced his education at the Bloomington and South Hanover College in Indiana, and then studied law in Lexington. In 1841 he became a resident of New York, where he engaged in literary pursuits. With the exception of a brief period spent in Europe, his life was passed in New York. He was a contributor to "Harper's" and the "Knickerbocker" Magazines, and to other publications. He practiced law at the same time, but is chiefly known by his literary productions. His first work that attracted attention was a poem entitled "Perdita," published in the "Union Magazine." He published a volume of verse entitled "Meditations in America," in 1845; "Alton," a poetical romance; "The Loved and the Lost," a prose and poetical work; and "The Liberty Bell," a poem, besides a number of others, contributed to various periodicals.

WARE, Rev. JOHN F. W., born in Boston in 1818; died in Boston, February 26, 1881. He entered Harvard University in 1834, and graduated in 1838, with several classmates who afterward became distinguished men. In 1839 he entered the Divinity School, and graduated in 1842. His first settlement as pastor was with the Unitarian Society in Fall River, Massachusetts, from which he removed to Cambridgeport Parish. In 1864 he accepted an invitation to become pastor of the Unitarian Society in Baltimore, Maryland, where his ministry was energetic and successful. He gave much attention to the religious and personal needs of the colored people. Before and during the war he was an anti-slavery man. A strong feature in his Baltimore ministry was a

series of theatre meetings which he inaugurated. At Swampscott, Massachusetts, he organized a Unitarian Society, of which he was pastor at the time of his death, as well as of the Arlington Street Church, in Boston, to which he was called in 1872. Among the members of the Grand Army he was a special favorite, having worked for and among the soldiers during the war, and was a frequent orator before their organizations after the establishment of peace. As a writer he contributed to denominational periodicals, and published several books, namely, "The Silent Pastor," "Hymns and Tunes for Sunday-School Worship," and "Home Life: What it Is, and what it Needs."

WARNER, HIRAM, born in Hampshire County, Massachusetts, October 29, 1802; died in Atlanta, Georgia, in 1881. He received a good common-school education, and, in addition, acquired some knowledge of the classics. At the age of seventeen he went to Georgia, where he taught school for three years. At the expiration of that time he had saved sufficient of his earnings to study law, and was admitted to practice in 1825, when he opened an office at Knoxville, in Crawford County. He soon obtained lucrative business, and in 1828 was elected to the General Assembly, where he served until 1831, when he declined a re-election. Two years later he was elected one of the Judges of the Superior Court of the State, which office he held until 1840. In 1845 he was appointed a Judge of the Supreme Court, and served for eight years. In 1855 he was elected Representative in the Thirty-fourth Congress, and declined re-election in 1857.

OBITUARIES, FOREIGN. ADAM, WILLIAM PATRICK, a British statesman; died in India, May 24th. He was one of the most acute and able of British politicians, and during the seven years of the Disraeli Ministry he displayed remarkable skill and energy as opposition "whip" in the House of Commons. The Liberal victory of 1880 surprised every one but Adam, to whose shrewd electioneering tactics it was largely due. He was rewarded with the governorship of Madras, and had hardly commenced what promised to be a successful career as an Indian administrator when he was taken off by death. He had gained an Indian experience already as secretary to Lord Elphinstone, Governor of Bombay, from 1853 to 1858. He was born in 1823, his father having been Admiral Sir Charles Adam, representative in Parliament of the Scotch counties of Olackmannan and Kinross. The late Governor of Madras was educated at Cambridge, and practiced as a barrister. On his return from India, in 1859, he obtained the seat in Parliament which several of his ancestors had filled, and which he held until his retirement from politics.

ARRIVABENE, GIOVANNI, Count, an Italian patriot and political economist, born in Mantua, in 1787; died January 12, 1881. He first

attained great prominence in 1820, when he was arrested for having taken part in the disturbances of the Carbonari. He was soon released through the efforts of influential friends, but, as he aided the Piedmontese revolutionists with money, he was compelled to leave the country shortly after, and went to Switzerland, from there to France, and finally to London. In the mean while his estates had been confiscated by the Austrian Government, and he himself had been sentenced to death *in contumaciam*. In London he turned his attention to the charitable institutions, and wrote a work, "Benificenza della città di Londra" (1827-'32), which was highly praised. In 1827 he went to Belgium, organized the Congress of Political Economy in Brussels in 1846, and returned to Italy in 1860. Here he was created a Senator, and was for a long time President of the Italian Association of Political Economy, and promoter of the organization of savings-banks, but took no part whatever in political affairs.

BENEDEK, LUDWIG VON, an Austrian general, born in Oedenburg, Hungary, in 1804; died April 27, 1881. He graduated at the Neustadt Military Academy, entered the Austrian army in 1822, and attained the rank of colonel in 1843; quelled an insurrection in Galicia in 1845, took part in the Italian campaign of 1848-'49, and distinguished himself particularly at Curtatone and afterward at Novara. In the Hungarian campaign of 1849 he commanded, with the rank of a major-general, the advance at Raab and Oszöny, and took part in the battles of Szöroy and Osz-Ivány. In the Italian war of 1859 he commanded the eighth army corps, rendering good service at Solferino. In the following year he became Governor-General of Hungary, and soon afterward commander-in-chief in Venetia. At the outbreak of the war with Prussia, in 1866, he was appointed commander-in-chief of the Army of the North. Owing to various causes, he did not fulfill the expectations of him, and, foreseeing the result of the war, he called upon the Emperor to conclude peace at any cost. After the battle of Sadowa, he retired to Olmütz, and was superseded by Archduke Albrecht. An investigation by a court-martial, which was begun some time afterward, was stopped by an imperial order, because "no code exists which makes the absence of talent a penal offense," and because the destruction of his military reputation must have been his severest punishment. He lived in complete retirement after the war of 1866, and remained silent to all attacks made upon him for his incompetency. But his last will, which was drawn up in 1873 and was published after his death, contains a passage which throws considerable new light on the events of those days. This passage is as follows: "I look forward to my death with a clear conscience, and declare that I leave no memoirs whatever. I have burned all my notes on the campaign of 1866, and on the command of the Army of the North, which was forced upon

me. On November 19, 1866, I promised Archduke Albrecht, in writing, to be silent on these matters in future. This promise may be called a rash and even a foolish one, but it was the characteristic expression of my soldierly character. It passes my ideas of right, honor, and decency, that the Austrian Government, having my promise, had its strange article on me published in the papers on December 9 or 10, 1866, in which even my entire past career was belittled; that this article was composed by Field-Marshal John and ———, and was published by order of the Government. I have endured it silently, and have now borne my hard lot for seven years with patience and self-denial."

BERTHAUT, General, French Minister of War in the Dufaure Cabinet, under President MacMahon, and one of the prominent organizers of the French army; died December 24th, at the age of sixty-four. In the defense of Paris, during the war of 1870, he displayed signal bravery at the head of his division of *Gardes Mobiliers*.

BONAPARTE, **PIERRE**, Prince, a son of Lucien Bonaparte and a nephew of Napoleon I, born October 11, 1815; died April 8, 1881. He was one of those members of the Bonaparte family who by their adventurous lives have gained considerable notoriety. He was elected to the National Assembly from Corsica in 1848, and after the *coup d'état* was recognized as a French prince. He very seldom came to court, and in 1869 married his mistress, the daughter of a laborer. In 1870 he shot Victor Noir, who came to him as the second of Pascal Groussets, and, although acquitted by the court at Tours, the excitement in the country was so intense that he was compelled to leave France. After the war with Germany he became so reduced financially that his wife opened a milliner's shop in London, to the great disgust of the Bonapartists.

BORROW, **GEORGE**, a British author, born in February, 1803; died July 30, 1881. He was the son of a British officer, and spent a roving life in following his father about. He lived for some time among gypsies, and acquired an accurate knowledge of the language and customs of this race. Afterward he studied theology at Edinburgh, and since 1835 traveled through most of the countries of Europe and parts of Africa as agent of the British and Foreign Bible Society. In this way he acquired a knowledge of a large number of modern languages and dialects. In St. Petersburg he published a translation of the New Testament in the Manchoo language and a volume of poetical translations from thirty languages. In Spain he translated the Gospel of St. Luke into the language of the gypsies and recounted the history of his wanderings in "The Bible in Spain" (2 vols., 1843, third edition, 1873); "The Zingali: an Account of the Gypsies in Spain" (2 vols., 1841, third edition, 1873); and "Lavengro, the Scholar, the Gypsy, and the Priest" (3 vols.,

1851, third edition, 1873). He severed his connection with the Bible Society in 1839, and continued his travels in Hungary, Roumania, and Turkey, publishing "Romany Rye," a sequel to "Lavengro" (3 vols., 1857, third edition, 1873), and "Wild Wales" (3 vols., 1862, second edition, 1873).

BOSCO, **FERDINANDO BENEVENTANO**, Baron DEL, general of the army of the former King of Naples; died at Naples, January 8th, aged sixty-seven years. He was the ablest officer in the Bourbon service, and the most esteemed; he was given the rank of field-marshal, and after the fall of the King, whom he served with bravery and fidelity, he entered the Italian service.

BRETEL, **RUDOLF**, formerly Austrian Minister of Finance, and the author of reforms which prevented the frequent deficits; died March 2d, at Vienna, where he was born in 1816. He was Minister from 1867 to 1870.

BUDBERG, **BARON ANDREAS**, formerly Russian ambassador at Berlin and other capitals; died February 10th. He enjoyed the favor of the Emperor Nicholas, and represented the Russian pretensions and hatred of the constitutional developments in Germany so faithfully as to become exceedingly unpopular at Berlin, where he was ambassador from 1851 to 1856, and a second time from 1858 to 1862.

BURGERS, **THOMAS FRANÇOIS**, ex-President of the Transvaal Republic, born April 15, 1834; died December 9, 1881. He was born in the Cape Colony, of one of the oldest Dutch families, and was educated at the University of Utrecht in Holland, where he imbibed some rationalistic views, which, on his return to Africa and his accession to the ministry, caused him considerable trouble. He became the clergyman of the Dutch Reformed Church at Hanover, in Cape Colony, and won great renown by his eloquence. As the doctrines he preached were at variance with the Calvinistic tenets of his church, he was accused of heresy, but, in the trial which followed, judgment was given in his favor. When Mr. Pretorius retired from the presidency of the Transvaal Republic in 1872, Mr. Burgers became the candidate of the Liberal party, and was elected by an overwhelming majority. His administration extended up to 1877, when the republic was annexed by the British, and was characterized by magnificent but for the greater part impracticable schemes.

CAROLINE, ex-Queen of Denmark, born June 28, 1796; died March 9, 1881. She was the daughter of Frederick Christian, Duke of Schleswig-Holstein-Sonderburg-Augustenburg, and married King Christian VIII of Denmark in 1815, shortly after he had come forward as the champion of national independence of Norway, and had been proclaimed king of that country. He was compelled to relinquish this title soon after, and it was not until the death of Frederick VI, in 1839, that he ascended the throne of Denmark. He died in 1848.

CATERINI, Cardinal PROSPERO, the oldest member of the Sacred College, First Deacon of the Roman Church, Secretary of the Inquisition, President of the Congregation of the Council, and of various other Congregations of Cardinals; died October 30th. He was born October 15, 1795, and without the advantage of noble birth won his way early in life to high positions in the Papal service through his extraordinary attainments in canonical law and the protection of Cardinal Sala. This influential prelate brought the talents of his young assistant to the notice of Leo XII, who gave him a post in the Congregation of the Council. Pope Gregory XVI appointed him Secretary to the Congregation of Studies, in which office he made the valued collection of laws and decrees "*De Recta Studiorum Ratione*." He was rapidly promoted by that Pontiff, and in 1853 was raised to the cardinalate by Pius IX.

CLINOHANT, General, one of the most experienced officers of the French army, died at Paris, of which post he was commandant, March 20th, at the age of sixty-one. He fought as a young officer in Africa for many years, was promoted to the rank of major in the Crimean War, distinguished himself by storming the tower of Solferino in the Italian campaign of 1859, commanded a regiment in the Mexican expedition, and was a general officer at the commencement of the Franco-German War. Besieged with his brigade in Metz and taken prisoner by the Germans, he escaped and placed his sword at the service of the Government of National Defense. He was appointed to the command of a corps, and after the defeat at Villersexel took command of the Army of the South, but only to capitulate and conduct his troops into Switzerland while the German army beleaguered Paris. After peace was concluded he led a corps of the Versailles army, and in the conflict with the Communards was the first to lead the troops into Paris. His moderation was praised by the Versaillists, while the Communards accused him of ordering bloody and terrible reprisals to be taken. His death is felt the more deeply in France because he has been a firm and influential supporter of the republic.

DINGELSTEDT, FRANZ VON, a German poet, born June 30, 1814; died May 17, 1881. He studied theology and philology at the University of Marburg, and then acted as instructor in the lyceum at Cassel and the gymnasium at Fulda. His liberal views caused considerable dissatisfaction at court. He wrote a number of poems published under the title of "*Lieder eines Kosmopolitischen Nachtwächters*" (1841), which were greatly admired at the time. Although he was not troubled by the Government, he resigned his position in 1841. In 1846 he became a dramatist to the court theatre at Stuttgart, and in consequence of the enthusiastic reception which was given his drama, "*Das Haus der Barneveldt*," in Munich, he was appointed superintendent of the court

theatre in that city in 1850. Here he attracted general attention by his combination of the greatest German actors of that time in twelve classical dramas. From Munich he went to Weimar, in 1856, where he devoted himself particularly to Shakespeare's dramas, and for the first time produced in German a series of the historical dramas, translated by himself. In 1867 he went to Vienna as director of the Imperial Opera-House, which position he exchanged for a similar one at the Hofburg Theatre, which he retained up to the time of his death. His "*Poems*" (1845, second edition, 1858) are fine descriptions of love. His best novel is "*Unter der Erde*" (2 vols., 1840). Among his other novels are "*Licht und Schatten in der Liebe*" (1838); "*Heptameron*" (2 vols., 1841); "*Novellenbuch*" (1855); and "*Deutsche Nächte in Paris*," from his "*Sieben friedliche Erzählungen*" (2 vols., 1844). His volume of poems, "*Nacht und Morgen*" (1851) is a companion to the "*Nachtwächterlieder*." Besides the historical dramas of Shakespeare mentioned above, he translated "*The Tempest*," "*Twelfth Night*," "*As you Like it*," and the "*Comedy of Errors*," Beaumarchais's comedy "*Figaro's Wedding*," and wrote a large number of miscellaneous works.

DROUYN DE L'HUYS, a French statesman, who three times occupied the position of Minister for Foreign Affairs under Napoleon III; died at Paris, March 1st, in the seventy-sixth year of his age.

DULLERT, W. H., President of the Netherlands Assembly; died in February, at the age of sixty-four. He entered the Chamber in 1849, of which he was president in 1852 and 1853, and was again elected in 1869, holding the office to the time of his death. He refused several times to accept a position in the ministry.

DUPRÉ, Vice-Admiral; died in Paris, February 8th. He was born in Strasburg, on November 13, 1813, passed through the Naval School, and was made a captain in 1854. Dupré took a part in the Chinese and Cochinchinese expeditions. He commanded the naval division on the coast of Africa in 1861, and was appointed Governor of Réunion in 1864. He was called in 1870 to the command of the naval division in the China and Japan seas. In 1871 he was nominated Governor and Military Commandant of Cochinchina.

EULENBERG, Count FRIEDRICH ZU, one of the leading statesmen of Prussia; died of a mental disease in an asylum near Berlin, June 2d. Fritz Eulenberg was the most conspicuous member of a family so prominent in the Prussian civil service as to have been nicknamed the "Eulenberg dynasty." Born June 29, 1815, the son of a cavalry-officer, he passed through the long apprenticeship in the departments which is required of Prussian statesmen. After completing his studies he became a Government assessor, and received an appointment in the Ministry of the Interior in 1849, at the stormy period of the Brandenburg-Manteuf-

fel Cabinet. Two years after he entered the diplomatic service as Consul-General at Antwerp. In 1859 he went to China and Japan as Ambassador Extraordinary to secure commercial treaties. In 1862 Bismarck, soon after he had risen to the head of affairs, called him into his Cabinet as Minister of the Interior. Bismarck, Roon, and Fritz Eulenberg carried through the plans for the solution of the Schleswig-Holstein question, and the accomplishment of German unity under the Prussian headship, only by breaking the sacredly pledged charter of representative rights. In the hot conflict between the trio and the will of the nation, Eulenberg's best-known act was the suppression of the freedom of the press. The great work of his life was the unification of the system of administration in the Prussian dominions, the old as well as those conquered in the Danish and German wars. With Bismarck he formed the alliance with the National Liberal party, a step of the highest historical moment, that was chiefly due to his influence; and when Bismarck broke the alliance, and struck out on new political courses, he parted with Eulenberg. After the latter's dismissal, in 1878, from the ministry, his half-completed administrative reforms were neglected, and in important features altered and abandoned.

FÖRSTER, HEINRICH, Prince-Bishop of Breslau, born November 24, 1799; died October 20, 1881. He studied theology in the University of Breslau, and in the clerical seminary in that city, and was ordained as priest in 1825. He soon gained considerable celebrity as a pulpit-orator, and in 1837 was appointed to the cathedral in Breslau. In 1853 he was elected Prince-Bishop of Breslau, and did much to promote the spiritual and temporal welfare of the members of his diocese. When the conflict between the church and state arose in Prussia, he stood firmly by the church, and in 1875 was deposed by the Prussian Government, and took up his residence at Johannesburg, in the Austrian part of his diocese.

FRIAS, FÉLIX, an Argentine publicist and diplomat, son of the distinguished lawyer Don Félix Ignacio Frias, was born in 1820, and died at Paris in 1881. He came early into notice as an eloquent denouncer and uncompromising opponent of Rosas, in the general movement against whose dictatorship he took so active a part as caused him to be driven into exile. In the neighboring Republic of Chili he published several works which gained for him lasting renown; and later, in France, the production of others, inspired by his intimacy with Montalembert, added fresh luster to his name. After the battle of Monte Caseros (February, 1852), which decided the overthrow of the dictator, Frias returned to his native land and became editor-in-chief of "*El Orden*," a dignified journal devoted to the consideration, from an elevated point of view, of the true interests of the country. Conspicuous among the historical works due to his pen is that en-

titled "*La Gloria del tirano Rosas*," cited on a par with a remarkable paper on the political situation of the Argentine Confederation consequent upon the victory of Monte Caseros. He afterward, as Envoy Extraordinary and Minister Plenipotentiary to Chili, served his government with zeal and ability in the protracted discussion of the question of limits between the two republics. Several times deputy, he was once called to the presidency of the Chambers. His opinions savored somewhat of asceticism.

GARNIER, JOSEPH, a French political economist and senator; died September 25th. He was born at a village near Nice, in 1813, and studied at the School of Commerce in Paris, in which he became a professor. In 1844 he was appointed Professor of Political Economy at the *École des Ponts et Chaussées*. He was elected a senator in 1876. He edited the "*Journal des Economistes*," was an organizer of the Free-Trade Association and of peace congresses, and wrote several text-books on political economy.

GOULD, JOHN, an English ornithologist; died in London, February 3d, at the age of seventy-seven years. The fruit of his explorations in Australia was his remarkable work, "*The Birds of Australia*," and one on Australian mammals. He also wrote a standard work on humming-birds, and one on the birds of the Himalayas, which was his earliest production.

GHOLAM HUSSEIN KHAN, an Indian official who rendered important services in establishing British rule in the Punjab; died in March, at the age of sixty. He was a Pathan chief by birth. His assistance in the Sikh wars and the Sepoy mutiny was indispensable, and in peace time his services in accustoming the native races to British administration were equally valuable. He was envoy to Dost Mohammed, and formed friendly personal relations with Shere Ali, but was unable in the then existing political situation to secure the favorable reception of an English envoy at Cabool, when sent on that mission in 1878. In the late war he was on his way to join Cavagnari at Cabool, when the massacre of the English mission took place. Gholam Hussein received for his services the titles of Khan Bahadoor, Nawab, and Knight Commander of the Star of India.

HALL, ANNA MARIA, née FIELDING, a British authoress, born in 1805, in County Wexford, Ireland; died January 30, 1881. As early as 1829 she gained considerable celebrity by her "*Sketches of Irish Character*" (latest edition, 1871), which was followed by "*Chronicles of a School-Room*" (1831), and the novels, "*The Buccaneers*" (1832), "*Tales of Women's Trials*" (1835), "*The Outlaws*," a tale from the time of James II (1833), and "*Uncle Horace*" (1837). Her "*Lights and Shadows of Irish Life*" (1838) is regarded as her best work. During this time she also produced a drama, "*The French Refugee*." Then followed a very large number of works of various kinds, among

which are "The Redderbox," an Irish novel (1839); "The Book of Royalty: Characteristics of British Palaces" (1839); "Marian" (1840), her most popular novel; "The White Boy" (1845); "Stories and Studies from the Chronicles and History of England" (1847); "Midsummer-Eve" (1848); "A Woman's Story" (1857); "Can Wrong be Right?" (1862); "The Fight of Faith" (1869); and "The Rift in the Rock" (1871). In 1852 she became the editor of Sharp's "London Magazine," and in 1860 of the "St. James Magazine." She was married to Samuel Carter Hall, who was also well known as an author.

HECKER, FRIEDRICH, one of the leading spirits and popular heroes of the democratic uprising in Germany in 1848; died at St. Louis, U. S. A., March 24, 1881. Born September 28, 1811, at Eichersheim, in Baden, he went to school in Mannheim, and studied law at Heidelberg. Commencing practice as an advocate at Mannheim in 1838, he plunged at once into political life, and was elected to the Baden Assembly in 1842. His expulsion from the Prussian dominions, upon a visit to Berlin with Itzstein in 1845, made his name known in all German lands. His spirit, vitality, and remarkable eloquence made him exceedingly popular. He was carried further and further by the drift of the age toward republicanism, until he openly took ground with Struve as a Republican and Socialist-Democrat when the arrangements for a German Parliament were under discussion in Heidelberg among the revolutionary politicians. From this time he became the hero of the masses, and the exponent of their democratic aspirations. His political plans he could not bring the majority of the Constituent Assembly to accept. He then appealed to the masses. Appearing at the head of columns of working-men, who had marched from the interior of France, he unfolded the banner of the social republic, and advanced with his revolutionary army into the highlands of Baden from Constance. He was beaten by the Baden soldiery at Kandern, May 20, 1848, and retreated into Switzerland. There he learned that the National Assembly, which had met meanwhile at Frankfort, had denounced him as a traitor. His enthusiastic hopes of a great revolution completely dashed, with the prospect of a felon's death before him, he fled to America in September. The following year, at the news of the "May revolution," his sanguine spirit mounted again, only to be more effectually cast down when he learned, upon hastening to the scene, that the abortive revolution was already ended.

Hecker recrossed the Atlantic, and became a citizen of the American Republic. He settled down as a farmer in Illinois. Like others of the German revolutionists of that epoch, who found a refuge and more congenial political institutions in the United States, he took a part in American politics, but did not become immersed in American political affairs, nor make

a new career for himself, as did some of his compatriots. He even refused brilliant diplomatic positions, feeling an honorable reluctance to accept a personal gain in requital for the effective services he performed for the party to which he attached himself. The anti-slavery cause awakened all the passion and enthusiasm of his nature, and to the end of his life he was an indefatigable and powerful stump-orator on the Republican side. He joined the Republican party on its formation, and in the civil war led a regiment of volunteers in Fremont's division of the Northern army. He resigned his colonelcy in 1864, and devoted himself thenceforth to agricultural occupations. During the Franco-German War he uttered inspiring words of hope and sympathy for the cause of the Fatherland; but when he visited Germany, in 1873, he felt a keen disappointment at the actual political condition, though he detected the rising spirit of liberty.

HEEMSKERK, M. J., a Dutch statesman; died in January, 1881. He had for a long time represented Haarlem, and afterward Amsterdam, in the States-General, in which body he had been for a long time the most prominent representative of the Liberal party. He was examiner-in-chief for the diplomatic service, a councilor of state, and author of several remarkable treatises on history and on English constitutional law.

HILDEBRANDT, THEODOR, a German explorer, was born May 19, 1847, in Düsseldorf; died on the Island of Madagascar, May 29, 1881. He was educated in the gymnasium at Düsseldorf, entered a machine-shop at the age of seventeen, in accordance with the request of his father, but, as he lost an eye here, he devoted himself to the study of botany. He was filled at an early age with a desire to travel, and for this purpose studied Arabic. In March, 1871, he set out on his first journey to Eastern Africa, where he explored the shores of the Red Sea. The geological, botanical, zoological, and ethnological collections which he sent to Berlin attracted so much attention that he received considerable pecuniary assistance from the African and Anthropological Associations and the Academy of Sciences. In 1874 he was compelled by sickness to return to Berlin, just as he was about to depart on a journey to the country of the Gallas. He set out on his second journey in June, 1875, went again to Eastern Africa, and made many valuable botanical discoveries on this trip. In 1877 he was again compelled by sickness to return, and on February 20, 1879, set out on his third and last journey. He sent home many valuable collections of specimens of all kinds, and was highly prized on this account.

KELLER, Dr. FERDINAND, of Zürich, the discoverer of the Swiss lake-dwellings, born December 24, 1800; died July 21st. After studying in Switzerland and in Paris he became the tutor of an English boy, the late Henry Danby Seymour, M. P., and afterward teacher of English

in the Technical Institute at Zürich. He acquired a name, by his researches in geology and archæology, before his great discovery of the pile-dwellings, in the winter of 1853, at Obermeilen.

KUTSCHER, Cardinal, Prince-Archbishop of Vienna, born at Wiese, in Sillesia, April 11, 1810; died January 24th. He studied theology in the Vienna University and in the Seminary of St. Augustine, was ordained a priest in 1833, and advanced to a doctorate in 1834. From 1835 to 1852 he was Professor of Moral Theology in the University of Olmütz. In the latter year he was appointed chaplain to the court at Vienna, and two years later a member of the Ministerial Council for Instruction and Worship. He took a prominent part in the alterations wrought in the education and marriage laws, and it was owing in a great degree to his prudence and skill that the Concordat was abrogated and the confessional laws materially modified without a breach between the Government and Rome. Vicar-General and Suffragan Bishop of the Archiepiscopal Diocese since 1862, he succeeded Cardinal Rauscher as archbishop in 1876, and received his nomination as cardinal in 1877.

LAFAYETTE, OSCAR DE, a French senator, and grandson of the Marquis de Lafayette, born in 1816; died March 27, 1881. He entered the army in 1835 as an officer in the artillery, took part in several campaigns in Algeria, and rose to the rank of captain. In 1848 he was appointed by the Provisional Government Commissioner of the Republic in the department of Seine-et-Marne, and was elected by this department a member of the Constituent Assembly, where he acted with the Republican Center. After the *coup d'état* he retired from public life, and did not return to it until, in 1870, the third republic was proclaimed. In 1871 he became a member of the National Assembly, and was elected by that body a life-senator. Shortly before his death he received an invitation from the United States to attend the Yorktown celebration.

LE FAURE, AMÉDÉE, member of the French Chamber of Deputies, and known as a critic and author on military affairs; died November 22d, aged forty-three years.

LOTZE, HERMANN, one of the leading philosophers of Germany, born at Bautzen, May 21, 1817; died at Berlin, July 1st, having been called to the university a few months before, from Göttingen, where he had officiated as professor since 1844. His "General Pathology" (1842) won him a name in the medical world, which was enhanced by "General Physiology" and "Medical Psychology," published ten years later. His "Metaphysics" (1841) and "Logic" (1843), and two treatises on æsthetics, gave him possession of the field to which his activity was afterward confined. The "Microcosmus" (1856-'64, third edition, 1876-'80), a philosophical work on anthropology, reconciled modern science with German philosophy in a

way which suited the spirit of the times, and secured for the work a wide popular reception. Of his great work, the "System of Philosophy," only "Logic" (1874, second edition, 1880) and "Metaphysics" (1879) were completed. Though infused with a vein of idealism, Lotze's philosophy approaches very closely the teachings of Herbert and the materialistic school.

MACDONALD, ALEXANDER, the member for Stafford, and Workingmen's representative in the British Parliament, died October 31st. He was born in 1821, and began to work in the coal-mines of Lanarkshire, beside his father, when but seven years of age, and was a working miner until 1851. He studied at evening schools so faithfully that he was able to attend certain classes in the Glasgow University, and when he left the mines he taught school for four or five years. From that time he devoted himself entirely to publicly championing the interests of the mine-operatives, among whom he first acquired the lead in a strike in Lanarkshire, while working in the mines. He labored earnestly as executive officer in miners' associations, and in the general election of 1874, and again in 1880, he was returned to Parliament as an advanced Liberal for Stafford. In the shrewd speculative venture of smuggling quinine into the Southern States through the Charleston blockade, he won a handsome fortune with a meager sum which he had saved. Notwithstanding his radical views and his anomalous position as a representative of labor in Parliament, he won the ear of the House of Commons, and was always heard with attention on questions affecting the industrial classes.

MACEDO, Conselheiro MANOEL BUARQUE DE, a Brazilian statesman, born at Pernambuco on March 1, 1837; died August 29, 1881. He graduated in law at the University of Brussels in 1859, and in the following year was appointed fiscal engineer of the Recife (Pernambuco) and San Francisco Railway. In 1874, although a Liberal, he was given, by the then Conservative Cabinet, the important post of Director of the Department of Agriculture, a position for which his talents and specific ability rendered him eminently eligible. Deputy for Pernambuco in 1877, and re-elected in 1878, he took so prominent a part in the legislative discussions of 1878-'79 that he was considered one of the leaders in the Chamber. On the retirement of Conselheiro Sinimbu's Cabinet in 1880, he succeeded that gentleman as Minister of Agriculture and Public Works, and remained in possession of the portfolio until the time of his death. Long experience with the details of his department, professional skill, and an energy strongly contrasting with the habitual supineness of public men in his country, foreshadowed in Macedo at once a brilliant statesman and a leading agent in the solution of the most pressing problems of the day for Brazil—immigration, labor, and internal communication.

MOHALE, JOHN, Archbishop of Tuam, O'Connell's powerful ally in the Repeal agitation,

and one of the most distinguished and popular of Irish Roman Catholic prelates, died November 7th, at the age of ninety, having been born March 6, 1791. He was the son of a small tenant farmer at Tobernaveen, in the county of Mayo. His earliest instruction was received clandestinely under hedge-rows from the Catholic village schoolmaster, who was persecuted in those days, although the laws making it a felony for him to teach had been repealed. He was sent to school at Castlebar at the age of twelve or thirteen, where he learned the rudiments of the classics. Entered in 1807 at St. Patrick's College, Maynooth, as an ecclesiastical student, he made brilliant progress in scholarship. Before reaching the canonical age he was ordained a priest, and assisted the Professor of Dogmatic Theology, whom, six years later, he succeeded. When his authorship of the powerful letters in defense of the Roman Catholic Church and its system, published in the newspapers over the signature of "Hierophilos," became known, he was marked out for a more prominent position in the priesthood in that time of agitation and controversy, when the Church felt the need of bringing its strongest men to the front. Accordingly, in 1825, he was consecrated a bishop as coadjutor to the Bishop of Killala. His learned work on "The Evidences and Doctrines of the Church" had already extended his reputation abroad. His pen was vigorously employed in aid of O'Connell's labors in the Catholic Association. In 1834 he was promoted to the highest order of the clergy as Archbishop of Tuam. In the political controversy which waxed hotter, and the agitation with which Ireland was heaving, and Great Britain worked into a fever in the next decade, the "Lion of the Fold of Judah," as the archbishop was called by his friend O'Connell, was the next prominent figure to the "Liberator," and after the death of the latter he was the leader of the Irish movement. His caustic and impassioned polemical letters in the newspapers, bearing the familiar signature, "John, Archbishop of Tuam," treated of all the burning questions of the time—national education, the tithes, the poor laws, the charitable bequest act, the great famine, the tenant right, and the repeal agitations; and when O'Connell held his meetings of the peasantry near Connemara, the archbishop was always at his side.

In the meetings of the Vatican Council in 1869 and 1870 Archbishop McHale spoke more than once, and was the first to announce its decrees in Ireland. He was most conscientious in the discharge of clerical duties, and labored in the humblest pastoral functions as actively as the youngest priest almost to the close of his long life.

MANNSFELD, Count HIERONYMUS, Minister of Agriculture of Austro-Hungary in the Auer-sperg Cabinet; died of scarlatina, at Blankenberghe, July 29th. He was one of the leaders of the Constitutional party in Austria. He was

born July 20, 1842, the eldest son of Prince Joseph Colloredo-Mannsfeld, and after serving some years in the army, entered upon his political career as deputy in 1872, and was called to the ministry in 1875.

MARIETTE BEY, the organizer of the Boolak Museum at Cairo, and director of Egyptian excavations; died January 18th. The deceased French Egyptologist, without possessing the highest degree of learning in his department, had a talent for discovery, and furnished more materials for Egyptian archæology than the researches of all other persons in recent times.

MASON, Sir JOSIAH, an English philanthropist; died in June, at the age of eighty-six. He was born of humble parentage, February 23, 1795, at Kidderminster, and commenced life as a street hawk of cakes and fruit. After trying his hand at various trades, he found employment in making metallic toys at Birmingham, and soon started as a manufacturer of split steel rings, and afterward of steel pens, of which he was one of the inventors. He became the largest manufacturer of pens in the world, besides carrying on other industrial establishments. He received no education, but taught himself to write when a shoemaker's apprentice. The sense of his own misfortune in this regard prompted him to the generous endowment of the orphanage at Erdington, where he resided, where five hundred children are supported and instructed; and the more magnificent and important benefaction of the Mason Science College, where only science and useful knowledge will be taught.

MIAL, EDWARD, member of the British Parliament and a leader in the disestablishment movement; died April 30th, at the age of seventy-two. He was in early life a Congregationalist minister; he founded "The Non-conformist" newspaper in 1841, and gathered around him a party of political Dissenters. From 1852, when he was elected for Rochdale, to 1874, when he retired from public life, he was the champion of the Dissenters in Parliament, and a prominent agitator outside for the removal of their political grievances.

STREET, GEORGE EDMUND, an English architect; died December 23d. He was born in 1824, at Woodford, and studied architecture under Sir Gilbert Scott. His master's work in reviving Gothic architecture was carried forward by Street, whose restorations and designs accord better with the spirit of the mediæval models than the earlier products of the Gothic revival. His principal works are the nave of Bristol Cathedral and the unfinished Royal Courts of Justice in London. Many churches were built after his designs. He wrote extensively on the subject of Gothic architecture, his principal works being "The Brick and Marble Architecture of North Italy in the Middle Ages" (1855), and "Some Account of Gothic Architecture in Spain" (1865).

UCHATIUS, Lieutenant Field-Marshal Baron FRANZ VON, of the Austrian army, took his

own life, at the age of seventy, in a fit of melancholy occasioned by a sense of slighted merits and wounded dignity. General Uchatius won his advancement from the ranks to one of the highest positions in the army through his inventive genius. He served as a cannoneer from his nineteenth to his thirty-third year, when he was rewarded with a commission. In 1866 he was appointed superintendent of the gun-foundry, with the rank of major; a year later he was made a colonel, in 1874 major-general, and in 1879 lieutenant field-marsbal. He was commandant of the artillery arsenal since 1871. While a lieutenant he invented a new fuse, and paved the way for his improvements in the manufacture of cannon. He used balloons for casting bombs at the siege of Venice in 1849. For the testing of metals in the arsenal, he constructed new apparatus. In 1856 he devised a new method for the production of steel, and from that time devoted his attention to increasing the strength of guns. He first constructed cannon with concentric metal bands. In 1874 he perfected the invention of steel-bronze, which in popular speech bears his name and which has rendered it illustrious. The whole of the Austrian field artillery was cast anew from Uchatius bronze.

UNRIKH, General, the defender of Strasburg, who received at first extravagant praise, and then unqualified blame, retiring into private life after the severe judgment passed upon him by an investigating commission in 1873, died at Paris, October 24th, aged seventy-nine years.

VERBOECKHOVEN, EUGÈNE, a Belgian painter, born June 8, 1799; died January 20, 1881. His father, who was an excellent sculptor, wished him to follow his profession, but he devoted himself almost entirely to painting. He exhibited his first work, an Amazon, in the *Salon* of Brussels in 1821, and soon became one of the most popular painters of animals. He took an active part in the War of Independence of 1830, immediately after the close of which he painted a picture representing the Belgian lion bursting his chains, which was lithographed and had a large sale. One of his best paintings, a flock of sheep surprised by a storm, is in the Modern Royal Museum in Brussels. His pictures were eagerly sought for and commanded good prices, particularly in England, Russia, and America. He also occasionally devoted himself to sculpture, exhibiting at an historical exhibition at Brussels, in 1880, a colossal lion.

VIEUXTEMPS, HENRY, a Belgian violinist, born at Verviers, February 17, 1820; died at Algiers, June 6, 1881. At the age of six years he played on the violin in public with so much success, that the King of Holland granted a pension for the completion of his musical education, and he at once entered on a complete course of study under M. de Bériot, the most brilliant soloist of that period. In 1833 he made his first trip to Germany, and while in Vienna

studied the theory of music with Sechter. After a short trip to England, he went to Paris, where he received lessons in composition from Reicha. From this time on he was constantly traveling, except for six years when he was first violin soloist to the Emperor of Russia. He made several visits to America. He was also a composer of great merit, and his works, no less than his playing, were remarkable for combining the vigor of the modern school of music with the purity of the classics.

WEBER, KARL PHILIPP MAX MARIA VON, a German railroad manager, was born April 25, 1824; died April 19, 1881. He was a son of the great composer Karl Maria von Weber, and was educated at the Polytechnic School at Dresden, and, after having traveled through the different countries of Europe and parts of Northern Africa, he entered the service of Saxony in 1850, which he exchanged for the Austrian service, and subsequently entered the Prussian Ministry of Commerce in 1878. He was the author of a large number of works on railroads, among which are "Technik des Eisenbahnbetriebs" (1854); "Schule des Eisenbahnwesens" (third edition, 1873), which was translated into nearly all the languages of Europe; "Telegraphen- und Signalwesen der Eisenbahnen" (1867); and "Nationalität und Eisenbahnpolitik" (1876). He also wrote a biography of his father, which was highly prized.

OHIO. On the 15th of November, 1880, the public debt of the State was \$6,476,805.30, of which all but \$1,665 was foreign debt, payable in New York. Of this amount \$2,500 was a loan payable July 1, 1868, and not bearing interest, and \$4,072,640.30 loan payable after June 30, 1881, bearing 6 per cent interest. During the first half of the year redemptions were made, by cash payments and the cancellation of State certificates, as follows:

Loan payable July 1, 1868, not bearing interest	\$2,500 00
Loan payable after June 30, 1881, bearing 6 per cent interest.....	1,272,640 30
Total payments.....	\$1,275,140 30
Total outstanding July 1, 1881.....	\$5,201,665 00

The sixty-fourth General Assembly authorized the Fund Commissioners to place a loan of \$2,800,000, bearing date July 1, 1882, with interest at 4 per cent, payable semi-annually, and maturing in installments as per statement below. The loan was placed at a premium of \$105,000, thus securing it at a rate of interest of about $3\frac{1}{10}$ per cent. The fact that this loan was secured at a rate of interest less than has yet been paid by any State, or by the United States, attests the high financial standing of the State. The loan was applied to the payment of a like amount of State certificates which, with \$1,275,140.30 from the sinking fund, paid and canceled \$4,075,140.30 of funded debt due July 1st.

On the 15th day of November, 1881, the public funded debt of the State was \$5,201,665. This sum consists of the following loans:

Loan payable after December 31, 1886, bearing 6 per cent interest.....	\$2,400,000 00
Loan payable after July 1, 1882, bearing 4 per cent interest.....	300,000 00
Loan payable after July 1, 1883, bearing 4 per cent interest.....	325,000 00
Loan payable after July 1, 1884, bearing 4 per cent interest.....	350,000 00
Loan payable after July 1, 1885, bearing 4 per cent interest.....	350,000 00
Loan payable after July 1, 1886, bearing 4 per cent interest.....	375,000 00
Loan payable after July 1, 1887, bearing 4 per cent interest.....	500,000 00
Loan payable after July 1, 1888, bearing 4 per cent interest.....	600,000 00
Canal loan, not bearing interest.....	1,665 00
Total funded debt.....	\$5,201,665 00

The local indebtedness at the same time was as follows:

Debts of counties.....	\$3,222,638 78
Debts of cities.....	37,909,348 80
Debts of incorporated villages.....	1,055,817 96
Debts of townships.....	457,407 60
Debts of special school districts.....	1,468,842 61
Total local debts.....	\$44,114,100 75

There was a total increase of local indebtedness over the previous year of \$2,816,355.07, described as follows:

Increase in counties.....	\$369,326 79
Increase in cities.....	1,915,762 58
Increase in villages.....	91,224 40
Increase in townships.....	157,106 46
Increase in school districts.....	282,934 84
Total increase.....	\$2,816,355 07

In the first session of the Legislature, which began its sittings in 1880, a large number of acts were passed authorizing the building of railroads by counties, townships, cities, and villages. Only a few of these acts had been carried into effect, but a considerable number of the local authorities were preparing to issue bonds in 1881 for the purposes named in the acts, when further proceedings were stayed by a decision of the Supreme Court of Ohio on a test case, declaring the act unconstitutional, and the bonds issued under it valueless wherever found. But for that decision the local indebtedness would have been much greater. As it is, the aggregate has increased every year, in spite of the warnings in every Governor's message for a series of years.

The amount of cash in the State Treasury on November 15, 1880, the beginning of the fiscal year, was \$1,235,891.50, which was to the credit of the following funds:

General revenue.....	\$301,432 74
Sinking fund.....	923,761 05
Common-school fund.....	10,697 71

The receipts during the year from taxes and all other sources were as follow:

General revenue.....	\$3,083,987 54
Sinking fund.....	1,376,625 51
School fund.....	1,544,970 73

Total receipts, including disbursements.. \$7,241,474 23

The disbursements for the same period were as follow:

From general revenue.....	\$3,130,906 95
From sinking fund.....	2,092,119 97
From common-school fund.....	1,517,026 25

Total in the year..... \$6,740,053 17

The balances in the Treasury at the close of the fiscal year were as follow:

General revenue.....	\$254,513 33
Sinking fund.....	203,265 95
Common-school fund.....	33,642 19
Total.....	\$501,421 11

The State Auditor's report shows the taxable property of the State to be \$1,587,207,579, an increase over the duplicate of 1880 of \$28,999,674. Real estate for 1881 is appraised at \$592,548 less than it was in 1880. This is by reason of the fact that the grand aggregate of real estate, as fixed by the State Board of Equalization, causes the realty of 1881 to fall below the valuation of 1880. The report shows that the gross increase of personal property for taxation is \$29,584,222. The statements contained in the report, in reference to national and State banks, are important. The report shows that the capital stock, undivided profits and surplus fund, and real estate of the national banks are appraised for taxation at \$21,777,313.20, an increase over 1880 of \$1,177,772.01. The amount of capital stock, surplus and undivided profits, and real estate, as reported to the Auditor of State at a valuation of \$34,137,499.76, show the taxable valuation to be $63\frac{7}{10}$ per cent of the true valuation.

Incorporated State banks make a return for taxation of \$1,136,233.09, an increase over the valuation of 1880 of \$15,795.86. The return to the Auditor of State of the same banks shows the amount of capital stock, surplus and undivided profits, and real estate, to be valued at \$2,035,052.26. Tax valuation, $58\frac{2}{10}$ per cent of true valuation.

An examination of tables in the report pertaining to the valuation of national banks for taxation, shows very great inequality in the assessment of this class of banks for taxes. The Auditor of State earnestly recommends that the statute be so amended as to restore the State Board of Equalization for bank shares.

The railway property of the State for 1881 was fixed by the State Board of Equalization at \$83,764,315.74, being \$167,280 more than the valuation of the same as returned to the board by the Boards of County Auditors.

The valuation of the railway property for 1881 was \$77,848,180.83; an increase over 1880 of \$5,916,134.91.

The report of the Commissioner of Railroads and Telegraphs indicates an increasing prosperity in these branches of industry. There were (June 30, 1881) 5,840,388 miles of railroads; an increase over the preceding year of 3.448 per cent.

The amount of stock and debt was \$380,709,530.35, an increase of 3.9 per cent; the gross earnings were \$45,843,866.34, an increase of 9.553 per cent; the operating expenses were \$29,378,562.82, leaving the net amount of earnings \$16,465,303.52, an increase of 4.483 per cent, amounting to 4.324 per cent on the stock and debt.

Of the gross receipts, the passenger earnings

amounted to \$10,320,517.98, an increase of 10.822 per cent; the freight earnings to \$33,415,533.28, an increase of 9.753 per cent; the mail earnings were \$1,047,698.55, an increase of 13.986 per cent; and the express earnings were \$832,994.67, an increase of 26.995 per cent. From "other sources" the receipts were \$862,704.22, an increase of 9.137 per cent.

It will be seen that while the increased mileage is not quite 3.5 per cent, there was an increase in the various classes of receipts from 9 to 26 per cent, averaging nearly 11 per cent.

There was expended in the maintenance of way and structures the sum of \$14,059,005.10, an increase over the previous year of 20.329 per cent. This may be in part attributable to the increased cost of material and labor, but largely to the fact that railroad managers have been actively engaged during the year in bringing their roads up to the proper condition to bear the increased demands of traffic.

The cost of transportation was \$23,768,604.45, an increase of 16.618 per cent. This cost has increased in greater ratio than the gross receipts. The employes, including officers, number 32,207, an increase of 9.529 per cent.

An inspection of the railroads was made during the summer and autumn by three competent civil engineers. They report great activity upon most of the roads, in the work of bridge-building, replacing wooden with iron bridges, and trestles with embankments, reducing the grades, increasing substantial ballasting, and a general tendency toward lasting improvements. They represent that there is generally a most excellent and safe condition of railway. When faults have been found by the inspectors, immediate assuring promises of prompt repair have been made by the managers or superintendents.

According to the returns made to the State Bureau of Statistics of Labor, the year 1881 was a very successful period for both manufacturers and working-men. Of the 463 returns by working-men, 177 report an increase without resorting to strikes, while 25 report an increase secured by means of strikes.

The Board of Public Works report their gross receipts for the fiscal year to be \$259,106.37; expenditures, \$213,705.97; net gain, \$45,400.40.

The report of the Adjutant-General shows the present force of the Ohio National Guard to consist of ninety-three companies of infantry, two troops of cavalry, and nine batteries of light artillery, and a total number of men, including officers, of 7,308, being a reduction of 698 during the year.

The total number of insane persons in the State is estimated at about 6,000. Of this number about 1,400 may be classed as chronic insane, and about 600 as epileptics. Of the total number, 3,533 are cared for in the asylums, leaving about 2,500, including epileptics, not cared for by the State.

On the morning of the 18th of November the main building of the State Institution for Feeble-minded Youth, at Columbus, was burned down, involving a loss of probably \$250,000. Nothing was saved from the burned portion of the building, but the children were all removed without injury.

There are six asylums for the insane. The number of patients in each, November 15, 1881, with the per capita cost per annum on daily average of patients actually in the asylums, were as follow: Athens, 616, \$170.37; Cleveland, 622, \$180.92; Columbus, 930, \$185.00; Dayton, 596, \$174.13 (exclusive of salaries); Longview, 651, \$122.94; Toledo, 118, \$185.55. At the same date the numbers in the other benevolent institutions of the State, with the actual cost per capita of the inmates, were as follow: Asylum for the Blind, 180, \$206.85; Deaf and Dumb Asylum, 432, \$175.84; Soldiers' and Sailors' Orphans' Home, 603, \$153.24. In the five reformatory institutions in the State there was, November 15, 1881, a total of 1,332 boys and girls. At the same time there were in the Penitentiary 1,152 prisoners. The cost per inmate for the year was \$150.10. The institution was more than self-supporting, the current expenses, including salaries, having been \$187,625.76, and the earnings \$190,614.23.

The crop statements of the State Board of Agriculture place the number of acres sown to wheat in 1881 at 2,856,609, with a total crop harvested of 38,010,057 bushels, being an average of 13.3 bushels per acre. The crop in 1880 was 52,500,000 bushels. The report of oats, partly estimated, was 22,500,000 bushels against 21,000,000 in 1880; of corn, 74,000,000 bushels, against 105,000,000 in 1880.

The number of animals returned to the Auditor of State's office shows a falling off from the previous year in all classes but sheep, in which there is an increase. The figures for the two years are as follow:

ANIMALS.	1880.	1881.
Horses	718,653	707,025
Cattle	1,624,286	1,533,462
Mules, etc.	25,924	23,073
Sheep	4,595,462	4,923,174
Hogs	1,974,808	1,795,770

The Legislature opened the adjourned session January 4th, and concluded its labors April 20th. Proceedings were temporarily suspended in the early part of March, in accordance with a resolution to attend the inauguration of President Garfield at Washington. A large part of the session was spent in fruitless endeavors to pass measures affecting the trade in liquor. A constitutional amendment, local-option bills, and a bill taxing the sale of liquor, were hotly debated through the greater part of the session, but none of them were finally adopted. A bill for the more rigid observance of Sunday was also under discussion from the beginning of the session

until near the close, when it passed in a greatly modified form, its principal effect being to restrict dramatic and musical entertainments on Sunday when connected with the sale of liquor. A bill was passed making it unlawful to keep or knowingly permit to be kept "any room or building, or any portion of any room or building, or to occupy any place on public or private grounds anywhere within the State of Ohio with apparatus, books, or other device for the purpose of recording or registering bets or wagers, or to sell pools upon the result of any trial or contest of skill, speed, or power of endurance of man or beast." Later in the session an attempt to exempt trotting associations from the operation of the law was defeated. The most important work of the session, aside from these measures, was the adoption of the scheme for the disposition of the public debt, before described.

At the opening of the session, Governor Foster transmitted to the Legislature the following communication:

MENTOR, OHIO, December 23, 1880.

To the Governor and General Assembly of the State of Ohio.

Having been appointed by the General Assembly on the 13th and 14th days of January, A. D. 1880, a Senator in the Congress of the United States from the State of Ohio for the term of six years, to begin on the 4th day of March, 1881, I have the honor to inform you that I respectfully decline and renounce said appointment, with a high appreciation of the honor conferred upon me by the General Assembly, and of the confidence which its choice inferred.

I am very truly your obedient servant,

(Signed) J. A. GARFIELD.

On the 18th of January the Legislature elected John Sherman United States Senator, for the full term of six years to which General Garfield had been elected the previous year, and which he had declined on his election to the presidency. The Democrats voted for Allen G. Thurman. The vote stood in the Senate—Sherman, 20; Thurman, 12; in the House—Sherman, 65; Thurman, 40.

On Friday, the 23d of September, at twenty-five minutes past 5 P. M., a train, bearing the remains of the late President Garfield, left Washington for Cleveland. It consisted of an engine and six cars. The first was a regular passenger car, which was unoccupied. The second contained Mrs. Garfield, her family and intimate friends. The third was set apart for the cabinet and their families. Next came the fourth car with the remains, guarded by a detachment of the First artillery. This was followed by a car containing the army and navy escort, and last was the baggage car. As there was not enough room in this train for the Congressional Joint Committee of sixteen, they were obliged to accept the second train. The remains reached Cleveland on Saturday morning, for burial in Lake View Cemetery, Cleveland. Great preparations had been made for the lying in state at Cleveland, a special building having been erected in the center of Monu-

ment Park, and arches spanning the streets in the neighborhood and along which the funeral procession was to pass. Several companies of State troops were called out as guards. The remains lay in state from Saturday to Monday morning, and a steady stream of persons poured through the building during the whole time. The State officials were present, the funeral being under the general direction of the Governor, who gave special charge of the proceedings to the municipal authorities of Cleveland. The whole State went into mourning.

The Republican State Convention was held at Cleveland, June 8th, and the following ticket put in the field: For Governor, Charles Foster, of Seneca; for Lieutenant-Governor, Rees G. Richards, of Jefferson; for Judge of the Supreme Court, Nicholas Longworth, of Hamilton; for Attorney-General, George K. Nash, of Franklin; for Treasurer of State, Joseph Turney, of Cuyahoga; for member of Board of Public Works, George Paul, of Summit. All but the nominees for Lieutenant-Governor and Judge of the Supreme Court were already occupants of the positions to which they were named, and the nomination of each was by acclamation. The platform adopted was as follows:

Resolved, That the Republicans of Ohio in convention assembled hereby reaffirm and readopt the principles and policy of the party as shown in its history.

Resolved, That the Republicans of Ohio heartily approve and indorse the Administration of James A. Garfield, President of the United States, and we hereby pledge to him our cordial support in the discharge of all the duties devolving upon him as the Chief Magistrate of the nation.

Resolved, That we hereby indorse the wise policy of the Republican party in giving full protection to American labor and in discriminating in favor of home industries.

Resolved, That we fully indorse the administration of Governor Charles Foster and the State administration of the Republican party during the last two years, under which the expenditures were reduced over \$500,000 below the expenditures of the Democratic administration of the two preceding years, and reduced the public debt of the State nearly \$1,250,000, and refunded the remainder of the debt redeemable the 30th day of June, 1881, by the issue of State bonds bearing 4 per cent interest, which were sold at such a premium as to reduce the rate per centum $3\frac{1}{2}$ per cent per annum.

Resolved, That public interests require that the General Assembly should submit to a vote of the people such amendments to the Constitution of the State relative to the manufacture and sale and use of intoxicating liquors as shall leave the whole matter to the Legislature.

The Greenback State Convention was held at Columbus, June 15th. The following ticket was nominated: For Governor, John Seitz, of Lucas County; for Lieutenant-Governor, Charles Jenkins, of Mahoning County; for Judge of the Supreme Court, Joseph Watson, of Knox County; for Attorney-General, G. M. Tuttle, of Lake County; for Treasurer of State, W. F. Gloyd, of Montgomery County; for member of Board of Public Works, H. L.

Morrison, of Ashtabula County. The platform declared:

1. That the right to make or issue money is a sovereign power to be maintained by the people for the common benefit. The delegation of this right to corporations is a surrender of the central attribute of sovereignty, void of constitutional sanction, conferring upon a subordinate irresponsible power absolute dominion over industry and commerce. All money, whether metallic or paper, should be issued and its volume controlled by the Government, and not by or through banking corporations; and, when so issued, should be a full legal tender for all debts, public and private.

2. That the bonds of the United States should be paid as rapidly as is practicable. To enable the Government to meet these obligations, legal-tender currency should be substituted for the notes of the national banks, the national banking system abolished, and the unlimited coinage of silver as well as gold established by law.

3. We demand the equal protection of labor and capital by law.

4. We are opposed to all subsidies by Government.

5. All lines of communication and transportation should be brought under such legislative control as shall secure moderate, fair, and equitable rates for passenger and freight traffic.

6. We condemn the cruel class legislation of the Republican party, which, while professing great gratitude to the soldier, has most unjustly discriminated against him and in favor of the bondholder.

7. All property should bear its just proportion of taxation, and we demand a graduated income-tax.

8. We denounce as most dangerous the efforts, wherever manifest, to restrict the right of suffrage.

9. We are opposed to an increase of the standing army in time of peace, and the insidious scheme to establish an enormous military power under the guise of a militia law.

10. That the practice of railroads of this State in issuing free passes over their lines of roads to the members of the Legislature and all other officers of the State, is vicious and corrupting, and ought not to be sanctioned or tolerated, but should be prohibited by stringent laws.

11. That the practice of turning out faithful officers connected with the supervision and management of the different institutions of the State upon mere party ground, is prejudicial to the best interests of the State, and ought not longer to be sanctioned by any party.

12. Prison convict-labor should be utilized by the State alone.

13. That we favor the submission by the Legislature to a vote of the people of an amendment to the Constitution prohibiting the manufacture, sale, or use of intoxicating drinks as a beverage.

The Democratic State Convention assembled at Columbus, July 13th, and put in the field the following candidates: For Governor, John W. Bookwalter, of Clarke County; for Lieutenant-Governor, Edgar M. Johnson, of Hamilton County; for Supreme Judge, Edward F. Bingham, of Franklin County; for Attorney-General, Frank C. Dougherty, of Hardin County; for State Treasurer, Alonzo P. Winslow, of Cuyahoga County; for member of the Board of Public Works, John Crowe, of Defiance County. The platform was as follows:

The Democrats of Ohio, proud of their citizenship in this great State, for the purpose of maintaining the prosperity of the Commonwealth and to promote the welfare and happiness of the whole people, submit the following declaration of principles upon which they ask the suffrages of the people: The equality of

all people before the law, equal taxation, non-political legislation, and a free and pure ballot as the cornerstone of free institutions; opposition to monopolies and subsidies of all kinds; the strictest economy in national, State, and local administrations, that labor may be lightly burdened; the maintenance and advancement of the common-school system.

Resolved, That the abuses of the present contract system in our State Prison, by which the products of criminal labor are brought into competition with the products of honest labor, to the great injury of the latter, are vicious and unwise, and should be corrected.

Resolved, That the course of the last Republican Legislature deserves the condemnation of the people for its incompetency, hypocrisy, its unnecessary and heavy increase in the burdens of taxation, and for the passage of unconstitutional acts, and for its reorganization of the benevolent institutions of the State solely for the purpose and as a medium for the distribution of spoils.

Resolved, That as the humanities are non-partisan, and as the treatment of criminals should be non-political, the management of the charitable punitive institutions of the State should be free from partisan change or appointments.

Resolved, That we are in favor of a civil-service reform whereby offices shall be held to be public trusts to be administered for the public good, not spoils to be enjoyed as the reward of partisan zeal or service.

Resolved, That the Democrats of Ohio, in this year, as in all years, are in favor of the largest individual liberty consistent with public order, and are opposed to legislation merely sumptuary.

Resolved, That the recent discovery of enormous speculations in high Federal places, and the Republican attempt to purchase votes by corruption, should convince the country that the Republican organization is not worthy of public confidence.

Resolved, That the power delegated to the General Government "to regulate commerce among the States," as well as the power reserved to the States to regulate commerce within their own borders, should both be exercised to prevent unjust discrimination and unreasonable charges by our railroads, and to secure a tariff for revenue levied and adjusted in its details with a view to equity in the public burdens and the encouragement of productive industries without creating monopolies; and we favor the appointment of a commission to suggest a method of revision which shall accomplish this result.

A Temperance Reform Convention was held at Loveland, July 20th, and after considerable discussion on the propriety of a separate political organization, placed a ticket in the field as follows: Governor, Abram R. Ludlow, of Springfield; Lieutenant-Governor, Jason McVay, of Columbus; Judge of the Supreme Court, Gideon T. Stewart, of Norwalk; Attorney-General, Levi Mills, of Wilmington; Treasurer, Ferdinand Schumacher, of Akron; Board of Public Works, Abner Davis, of Mercer County. The following platform was adopted:

Whereas, The liquor-traffic is going forward in the State of Ohio with increasing power, devastating our homes, corrupting public morals, and controlling legislation; and,

Whereas, The two great political parties of Ohio have put into their platforms principles which, if carried out, will result in a still greater increase of the liquor-traffic and of its dreadful consequences: therefore,

Resolved, That the time has fully come when temperance men should unite in a political organization whose leading object shall be the suppression of the liquor-traffic, and therefore we are in favor of nominating a State temperance reform ticket.

Resolved, That our ultimate object shall be the constitutional prohibition of the liquor-traffic, the manufacture and sale of intoxicating liquors, including wine, ale, and beer, and we demand that our next Legislature shall submit to the voters of Ohio such constitutional amendments.

Resolved, That as a measure leading to constitutional prohibition, we are in favor of local option, and demand of our next Legislature the passage of a stringent local-option law.

Resolved, That we do not deem it important to announce definite principles on other political issues, as all these are of minor importance when compared with those great measures which we advocate and propose to secure—constitutional prohibition of the liquor-traffic.

Resolved, When either of the dominant parties puts in nomination candidates for the General Assembly and county officers distinctly pledged to the principles herein set forth, we will not put opposition candidates in the field; but when they fail to do this we will put in nomination our own tickets, as in the case of State officers, and press their election with energy.

Resolved, That we recommend the organization of county and township organizations as auxiliaries to the Ohio Anti-Liquor Alliance.

Resolved, That we recognize the great moral power of the Women's National Christian Temperance Union, the success which has crowned its efforts, and we earnestly ask the co-operation of the noble Christian women of our State in our efforts to forward the foregoing objects.

Resolved, That we hereby tender to James A. Garfield, President of the United States, and his family, our profoundest sympathies in his sore affliction, and we, in common with the people of this whole country, rejoice in the prospect of his speedy recovery, and devoutly pray God that he might be spared to this nation to accomplish the great hopes that have been centered in him.

The Prohibition Reform State Convention was held at Columbus, August 4th, and nominated the following State ticket: for Governor, Abram R. Ludlow, of Clarke County; for Lieutenant-Governor, Jason McVay, of Franklin County; for Judge of the Supreme Court, Gideon T. Stewart, of Huron County; for Attorney-General, Henry Camp, of Coshocton County; for State Treasurer, Ferdinand Schumacher, of Summit County; for member of Board of Public Works, Abner Davis, of Mercer County. The candidates are the same as those nominated previously at Loveland, with the exception of Attorney-General. Levi Mills having declined the Loveland nomination, the place was given to Henry Camp. On his declination the committee substituted the name of David W. Gage, of Cuyahoga County. The following platform was adopted:

Resolved, That the Prohibition Reform party of Ohio, in this thirteenth year of its history, with congratulations to the friends of the cause on its present great and rapid progress, repeat and affirm the following principles and measures:

1. The prohibition in the State and national Constitution and laws of the liquor crime, being the manufacture, importation, sale, and supply of intoxicating liquors for use as a beverage.

2. The abolition of executive and legislative patronage, and the election of President and Vice-President, United States Senators, postmasters, and all civil officers, so far as practicable, by direct vote of the people.

3. The universal and enforced education of the youth of the State and nation.

4. The prohibition of speculative and other gam-

bling in gold, stocks, agricultural products, and all forms of money and property.

5. The prohibition of corporation grants, Crédit Mobilier and ring speculations with public lands, and the substitution of homesteads for the people to be secured to actual settlers there, and to be encouraged and preserved throughout the nation.

6. The protection by law of laborers against the oppressions of unjust capital, and a lien on the property and earnings of corporations for the wages.

7. The equal rights and civil equality of the people, including the right of suffrage, irrespective of race, sex, or color.

8. The reduction of salaries of public officers in a just ratio to the decline of wages and market prices; the reduction of taxes; the abolition of all sinecures and unnecessary offices, of subsidies and Star Route swindles; the frequent and rigid investigation into the whole system of Government contracts and the accounts of public officers, and the prompt payment of the public debt by retrenchment and reform in the Government expenses.

The election took place October 11th, and resulted in a complete Republican victory, the whole of the Republican State ticket being elected by majorities over all the other candidates combined, and large majorities secured in both branches of the Legislature. The following shows the votes on each candidate:

FOR GOVERNOR.

Charles Foster, Republican.....	312,735
John Bookwalter, Democrat.....	288,426
A. R. Ludlow, Prohibitionist.....	16,597
John Seitz, Greenback.....	6,330
Scattering.....	188

FOR LIEUTENANT-GOVERNOR.

R. G. Richards, Republican.....	314,100
Edgar M. Johnson, Democrat.....	288,266
Jason McVay, Prohibitionist.....	16,127
Charles Jenkins, Greenback.....	6,360
Scattering.....	34

FOR JUDGE OF SUPREME COURT.

Nicholas Longworth, Republican.....	316,005
Edward F. Bingham, Democrat.....	286,650
Gideon T. Stewart, Prohibitionist.....	16,090
Joseph Watson, Greenback.....	6,495
Scattering.....	71

FOR ATTORNEY-GENERAL.

G. K. Nash, Republican.....	315,655
F. C. Dougherty, Democrat.....	287,470
David W. Gage, Prohibitionist.....	15,612
G. N. Tuttle, Greenback.....	6,482
Scattering.....	67

FOR TREASURER.

Joseph Turney, Republican.....	316,282
A. P. Winslow, Democrat.....	286,591
Ferdinand Schumacher, Prohibitionist.....	15,842
William F. Gloyd, Greenback.....	6,487
Scattering.....	125

FOR MEMBER OF BOARD OF PUBLIC WORKS.

George Paul, Republican.....	315,459
John Crowe, Democrat.....	287,645
Abner Davis, Prohibitionist.....	15,255
H. L. Morrison, Greenback.....	6,438
Scattering.....	477

The Republicans elected 22 Senators and 70 Representatives, and the Democrats 11 Senators and 35 Representatives, thus giving the Republicans an exact two-thirds vote in each branch of the Legislature.

The following table gives the population of Ohio by counties, as finally returned by the census of 1880, and as compared with the corresponding figures for 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adams.....	24,005	20,750	Hamilton.....	313,374	260,370	Muskingum.....	49,774	44,886
Allen.....	31,314	23,623	Hancock.....	27,784	23,847	Noble.....	21,133	19,949
Ashland.....	23,883	21,933	Hardin.....	27,023	18,714	Ottawa.....	19,762	13,364
Ashtabula.....	37,139	32,517	Harrison.....	20,456	18,632	Paulding.....	13,485	8,544
Athens.....	23,411	23,763	Henry.....	20,585	14,028	Perry.....	28,218	18,453
Auglaize.....	25,444	20,041	Highland.....	30,281	29,133	Pickaway.....	27,415	24,875
Belmont.....	49,638	39,714	Hocking.....	21,126	17,925	Pike.....	17,927	15,447
Brown.....	32,911	30,802	Holmes.....	20,776	18,177	Portage.....	27,500	24,584
Butler.....	42,579	39,912	Huron.....	31,609	28,532	Preble.....	24,533	21,809
Carroll.....	16,416	14,491	Jackson.....	23,686	21,759	Putnam.....	23,713	17,081
Champaign.....	27,317	24,188	Jefferson.....	33,018	29,188	Richland.....	36,306	32,516
Clarke.....	41,943	32,070	Knox.....	27,431	26,333	Ross.....	40,307	37,097
Clermont.....	36,713	34,263	Lake.....	16,326	15,935	Sandusky.....	32,057	25,503
Clinton.....	24,756	21,914	Lawrence.....	39,063	31,350	Scioto.....	33,511	29,302
Columbiana.....	43,602	33,299	Licking.....	40,450	35,756	Seneca.....	36,947	30,827
Coshocton.....	26,642	23,600	Logan.....	26,267	23,023	Shelby.....	24,137	20,743
Crawford.....	30,533	25,556	Lorain.....	35,526	30,308	Stark.....	64,031	52,503
Cuyahoga.....	196,943	132,010	Lucas.....	67,377	46,722	Summit.....	43,788	34,674
Darke.....	40,496	32,273	Madison.....	20,129	15,633	Trumbull.....	44,880	38,659
Defiance.....	22,515	15,719	Mahoning.....	42,571	31,001	Tuscarawas.....	40,198	33,840
Delaware.....	27,331	25,175	Marion.....	20,565	16,134	Union.....	22,375	18,730
Erie.....	32,640	23,133	Medina.....	21,435	20,092	Van Wert.....	23,023	16,823
Fairfield.....	34,284	31,133	Meigs.....	32,325	31,465	Vinton.....	17,223	15,027
Fayette.....	20,364	17,170	Mercer.....	21,308	17,254	Warren.....	28,392	26,639
Franklin.....	36,797	33,019	Miami.....	36,158	32,740	Washington.....	43,244	40,609
Fulton.....	21,053	17,739	Monroe.....	26,496	25,779	Wayne.....	40,076	35,116
Gallia.....	23,124	25,545	Montgomery.....	73,550	64,006	Williams.....	23,821	20,991
Geauga.....	14,251	14,190	Morgan.....	20,074	20,363	Wood.....	34,022	24,596
Greene.....	31,349	23,933	Morrow.....	19,072	18,533	Wyandot.....	22,395	18,533
Guernsey.....	27,197	23,333						
The State.....							3,198,062	2,665,260

OPIMUM-TRAFFIC IN INDIA AND CHINA. There have been indications during the year of a renewed effort on the part of the authorities of China to suppress or at least to circumscribe the traffic in opium, with a view to restricting its consumption in that empire. At the same time the agitation has been continued in England in favor of the policy of discouraging the exportation of the drug from India. The difficulties in the way of this movement arise from the fact that both the Indian Government and China derive no inconsiderable part of their revenue from this trade, and indulgence in the opium-habit among the Chinese has become so prevalent as to suggest an almost universal resistance to measures calculated to interfere with it. Originally the product of the opium poppy, which was cultivated most successfully in Asiatic Turkey and Persia, was used exclusively as an article of medicine. There are evidences of the practice of opium eating and smoking among the Persian magnates of some centuries ago, and the example seems to have been imitated by some of the Hindoo princes of Rajpootana, and a few of the later emperors of the Ming dynasty in China; but the habit was not at all common until within a comparatively recent period. During the fifteenth and sixteenth centuries the total supply in the East was very small, and derived chiefly from Asiatic Turkey and Persia. A small quantity of an inferior grade was produced in the Chinese province of Yunnan, which was either consumed locally or sent abroad for medicinal purposes. The Portuguese were the first to introduce Indian opium into China, which they did in small quantities through their possessions of Goa and Macao. The amount up to the year 1767 did not exceed 200 chests annually. The use to which it was put is not

known, but it is believed to have been indulged in to some degree as a luxury by the mandarins of Canton. It was after this that the taste for the drug was revealed in a marked degree among the official classes in China. After 1767 the traffic rapidly increased to about 1,000 chests annually, and the profit which accrued from it, notwithstanding heavy import duties, induced the British East India Company to enter into competition with the Portuguese in supplying the Chinese markets. Its first venture was made in 1773, and was followed by another on a larger scale three years later. By this time the traffic had been made contraband by imperial edicts, and two vessels were left at anchor in Larks Bay, to the south of Macao, to serve as depots through which it could be carried on. At this time, it is said, the drug, which cost 500 rupees a chest at Calcutta, was sold in China at a profit of about 100 per cent. The trade increased until in 1794 the importation of Indian opium through English agents had risen to 1,500 chests.

It was about the end of the last century that the practice of indulging in opium had made such progress as to be regarded as a national evil, and to evoke vigorous efforts to suppress the trade in what was officially called "the flowing poison." In the year 1800 Hea King, who had recently succeeded his grandfather, the illustrious Keen Lung, issued a formal proclamation, not only forbidding the importation of the drug, but absolutely prohibiting its cultivation in Yunnan. This was followed by severe edicts against all who cultivated, imported, or consumed opium; but the mandarins of Canton, for whom the trade was a prolific source of revenue, continued to connive at it, and it went on increasing. In 1827 it had risen

to 10,000 chests annually, and ten years later amounted to more than 40,000. This progress had been made under all the difficulties, inconveniences, and dangers of carrying on a purely contraband traffic. More vigorous efforts for its suppression led to the so-called "Opium War" with England in 1840, which ended with the treaty of Nanking in 1842. This and the subsequent treaty of Peking presented the first recognized basis of traffic between the English and Chinese, and gave opium a place among the legal imports into China, thereby removing the obstacles to the development of the traffic. The importation from India had reached 70,000 chests in 1856, and is now computed at about 90,000. Meantime the cultivation of the poppy-seed had continued in Yunnan, and extended to the neighboring province of Szechuen. Even after the treaties which followed the "Opium War," the Emperor of China refused to recognize the traffic as a legitimate source of national revenue. He said: "It is true that I can not prevent the introduction of the flowing poison; gain-seeking and corrupt men will, for profit and sensuality, defeat my wishes; but nothing will induce me to derive a revenue from the vice and misery of my people." This sentiment controlled the avowed policy of the Government until after the second foreign war, which closed with the treaties of Tientsin and Peking in 1858, after which a party gained the ascendant which took a practical view of utilizing the inevitable traffic as a source of revenue. The new tariff issued at that time recognized opium as a legal import, and subjected it to a tax of 30 taels per picul, or about £10 sterling per chest. It was also made subject to transit dues after being removed from the port.

Not only has imported opium become a fruitful source of revenue to China, but it is a very important article of taxation and profit for the British Indian Government. The poppy is grown and the drug manufactured chiefly in two special districts, the valley of the Ganges, about Patna and Benares, and a fertile tableland in Central India, which corresponds to the old kingdom of Malwah and is for the most part still under the rule of native princes, foremost among whom are Scindia and Holkar. The cultivation of the poppy in the Malwah district is free, but a duty of £65 per chest is raised on it as it passes through British territory. In Bengal, on the other hand, the production of opium is a government monopoly. Outside of these two districts, with the exception of Rajpootana and a few places in the Punjab, the cultivation of the poppy is prohibited in India. The manufacture of the opium of commerce from the juice of the poppy grown in British territory is performed at Patna and Ghazepoor, while that from the product of the Malwah district is made at Indore and Gwalior. In 1878-'79 the total product was 91,200 chests, of which the export value was £12,993,985, and it was officially com-

puted that the state derived from it a net profit of nearly £8,000,000, about one half of which came from the Bengal monopoly. Perhaps a million pounds in value of the product was destined for Burmah and the Malay settlements, but nearly eleven million pounds' worth was sold to the Chinese. The difficulty of reinstating the policy of prohibiting or materially restricting the opium-traffic is manifestly rendered very great by its importance for revenue purposes to both the Chinese and British Indian Governments. So far as it depends on negotiations with Great Britain, the difficulty is further magnified by the fact that that nation does not share, to any appreciable degree, the evil consequences it is desired to check, while its share of the financial benefit is very great. To strike opium from the sources of revenue for the Indian Government would necessitate a difficult readjustment of the finances of India. Another obstacle which the Chinese Government is likely to encounter is to be found in the remarkable increase in the home production of opium in the provinces of Yunnan and Szechuen, and the almost universal prevalence which the habit of opium-smoking has attained in a large part of the empire. While it is evident, from recent utterances of the minister Li Hung Chang, that negotiations are likely to be opened with a view to restricting the importation, there is little prospect of immediate success, either in the effort to suppress the traffic from abroad or that within the empire, or to circumscribe the use of the drug which is regarded as so pernicious, so long as such powerful interests and such wide-spread popular tastes are arrayed against the policy, and the means of enforcing it are so inadequate in consequence of the character and attitude of a large part of the official and influential classes in China.

OREGON. The Oregon State Woman Suffrage Association met in Portland on the 8th of February. The following resolutions were adopted:

Whereas, The social relations between men and women are mutual, their individual needs equal, and their conjugal interests identical; and,

Whereas, Man, by virtue of the law-making power, as expressed through the ballot, has supreme advantage over woman in reaching exalted social positions, in providing for his individual needs, and in controlling the individual interests of mutual conjugal relations; and,

Whereas, This advantage of one over the other is both unwise and unjust, and not to be continued; and,

Whereas, The era of physical force is rapidly giving way to the era of intellectual and moral influence between men and men: therefore,

Resolved, 1. That this same era of force should be abolished wherever it exists between men and women.

2. That the ballot is the key to men's advantage over women; and women, who are by nature equal with men, ought by right of law to be equally free and independent with men in all things pertaining to their domestic, civil, and political rights.

3. That what the ballot has done for man, native or foreign-born, it is equally capable of doing for woman, and we demand it for her as a means of self-

improvement, social advantage, and moral power, as well as political equality.

4. That the present phase of the woman movement does not arise from domestic grievances, but from governmental injustice.

5. That woman suffrage is a question of human right, in exact accordance with the fundamental principles of a republican form of government.

6. That we demand the ballot as a practical application of those principles of liberty and justice which are taught in every district school—among girls as well as boys.

7. That the present phase of the woman movement is practical, and it is woman's duty to assume the responsibilities of citizenship whenever possible.

8. That the Executive Committee shall have the power to appoint picked men and women in every county as committees upon political action, whose duty shall be to attend primary meetings and nominating conventions, and secure woman-suffrage planks and resolutions in party platforms.

9. That it is the sense of this convention that universal suffrage is both a civil and a natural right, and as such it recognizes neither sex nor previous condition of servitude.

10. That as universal suffrage is a civil as well as natural right, it carries with it the duties and obligations of citizenship.

11. That it is the sense of this convention that God made it a law of this universe that justice is the highest expediency.

12. That we heartily concur in the recent act of the State Legislature in granting equal property rights to women.

13. That we thank the Legislature of 1880 for its just and generous act in passing a resolution for so amending the State Constitution that it may be legally possible for the next Legislature to submit the proposition for a constitutional woman-suffrage amendment to the vote of the people in 1884.

14. That we will use all honorable means to elect men to the Legislature of 1882 who are pledged to sustain the woman's suffrage resolution passed by the Legislature of 1880.

The Oregon State Temperance Alliance met in Portland on the 16th of February. The following are the resolutions adopted:

Resolved, That the Oregon State Temperance Alliance takes this the earliest opportunity afforded of expressing its profound disappointment and regret at the course the Legislature of this State pursued in refusing to pass a civil damage act for this State, or any act whatever to check the growth of the terrible scourge—intemperance.

Resolved, That we renew our pledges never to cease our work and labors until the organic law of the State of Oregon is so amended as to for ever banish all kinds and classes of intoxicating liquors from the State; and to the end that this object may be attained, we favor submitting to the voters of the State at as early a day as possible, an amendment to the Constitution providing for the entire prohibition of the manufacture, importation, sale, or giving away as a beverage any intoxicating liquor whatever.

Resolved, That as an efficient means to the accomplishment of all the ends had in view by this alliance, we look to and rely upon the assistance of the Christian Church and Christian people, as well as the united and hearty co-operation of all other organizations of the State whose object is to reclaim and reform the inebriate, and build up a strong and healthy temperance sentiment among the people.

Resolved, That we invite all lovers of temperance and sobriety, of all political parties, and all branches of the Christian Church, to join in the grand work of redeeming our State and nation from the curse of strong drink.

Whereas, The liquor interest in Oregon is organized and consolidated as a political force, demanding and

receiving consideration from the political parties: therefore,

Resolved, That while in the judgment of this Alliance no separate political party should be formed, yet we should be consolidated in political action.

Resolved, That a balance-of-power party should be now formed, whose members shall be pledged to concerted action not to vote for any but temperance men.

Resolved, That a committee of twelve men be appointed to outline and organize this work.

Resolved, That we will unite our efforts, and we call upon all the friends of temperance in Oregon to unite with us in petitioning the next Legislature at Salem (1882) to enact a stringent civil damage law at that time.

At a meeting of the Executive Committee, held in the same city, on the 30th of July, it was determined to circulate petitions and take other measures to induce the Legislature at its next regular session to adopt the following constitutional amendment:

ARTICLE I, SECTION 1. That the manufacture, sale, or the giving away, or the offering to sell or give away, of any or all kinds of spirituous, vinous, malt, or any other intoxicating liquor, within the State of Oregon, is prohibited, except for medicinal, scientific, or mechanical purposes.

SEC. 2. The Legislative Assembly shall enforce this article by appropriate legislation forthwith after the adoption of said amendment.

The exports to foreign countries of wheat and flour from Portland, for the last four calendar years, have been as follow:

YEAR.	WHEAT.		FLOUR.	
	Bushels.	Value.	Barrels.	Value.
1878.....	1,885,556	\$1,976,772	102,943	\$491,199
1879.....	2,414,716	2,739,115	161,141	808,885
1880.....	1,762,515	1,845,587	180,663	891,872
1881.....	4,076,508	3,765,232	374,480	1,484,311

The value of all exports in 1881 was \$5,324,503. From Astoria there were exported during the year 474,336 centals of wheat, valued at \$739,170; 49,652 barrels of flour, valued at \$248,752; and 342,149 cans of salmon, valued at \$1,736,993. The total value of wheat and flour exported from the two ports was \$6,312,425; and of all articles, \$8,124,368. The imports to Portland amounted to \$639,316; and to Astoria, \$220,218; total, \$859,534. The entire shipments from the Columbia River for the year amounted in value to fully \$14,000,000. Adding to foreign exports shipments to San Francisco, consisting of wheat, flour, wool, salmon, and other products, the value of which at a moderate estimate would be \$6,000,000, we have the total above indicated. Salmon alone shipped to San Francisco reached a total of 222,000 cases, valued at \$1,100,000. Wheat shipments to that city were about 400,000 centals, valued at \$600,000; and flour shipments, 320,000 sacks, valued at about \$400,000. Of wool, 27,762 bales were shipped, having a value of about \$1,400,000. Oats, flaxseed, potatoes, hides, hops, etc., would make up another half million of value.

The Willamette Valley yields an average of 150,000 tons of wheat in excess of the demands for seed and home consumption. There has been little gain for four or five years, owing to

emigration from the valley to Eastern Oregon and Washington. The yield of the latter region in 1881, in excess of the demands for seed and home consumption, is estimated at 100,000 tons, delivered at the shipping centers in about the following proportions:

	Tons.
Walla Walla.....	22,000
Weston.....	18,000
Waitsburg.....	7,500
Dayton.....	10,000
Upper Snake River.....	12,500
Milton.....	5,000
Umatilla to mouth of Snake River.....	10,000
Klickitat.....	2,000
Various small shipping points.....	10,000
Total.....	100,000

According to the estimates of the Department of Agriculture, the wheat-crop of Oregon has been as follows: 1879, 7,486,492 bushels; 1880, 11,743,420; 1881, 13,889,000.

The following table shows the canning of Columbia River salmon during the ten years ending 1880:

YEAR.	Cases.	YEAR.	Cases.
1871.....	85,000	1876.....	429,000
1872.....	44,000	1877.....	398,000
1873.....	103,000	1878.....	450,000
1874.....	244,000	1879.....	440,000
1875.....	291,000	1880.....	540,000

The census returns of 1880 show, on the Columbia River, twenty-nine canneries, having a capital of \$1,100,000; product, 539,587 cases, and 25,900,176 pounds, in one-pound tins, valued at \$2,697,930; hands employed, 6,500.

The following are the principal towns and cities, with their population, in 1880: Baker City, 1,258; Corvallis, 1,128; Oregon City, 1,263; Astoria, 2,803; Eugene, 1,117; Albany, 1,867; Salem, 2,538; Portland, 17,578; East Portland, 2,409; Dalles, 2,232.

The gold product of the State for the year ending June 30, 1880, was \$1,090,000; silver, \$15,000.

The following statement shows the amount of State taxes due from the several counties in the State, as levied for the year 1881, together with the total amount of taxable property:

COUNTIES.	Taxable property.	Total tax.
Baker.....	\$1,027,542	\$5,651 47
Benton.....	2,450,446	13,477 44
Clackamas.....	2,069,900	11,334 45
Clatsop.....	1,443,612	7,967 35
Columbia.....	393,345	2,163 39
Coos.....	865,574	4,760 64
Curry.....	276,832	1,522 56
Douglas.....	2,426,820	13,347 51
Grant.....	1,436,417	7,900 27
Jackson.....	1,633,651	8,986 17
Josephine.....	321,846	1,770 14
Lake.....	763,085	4,224 46
Lane.....	3,396,349	18,679 90
Linn.....	6,007,538	33,041 44
Marion.....	4,462,994	24,546 45
Multnomah.....	13,908,205	76,467 62
Polk.....	2,408,279	13,245 51
Tillamook.....	106,333	554 82
Umatilla.....	2,941,625	16,178 95
Union.....	1,677,600	9,226 80
Wasco.....	3,221,200	17,716 60
Washington.....	2,535,400	13,944 70
Yam Hill.....	3,476,382	19,120 09
Total.....	\$59,256,175	\$325,903 75

The number of patients in the Asylum for the Insane is rapidly increasing, and was as follows: Number of patients on June 1, 1881, 304; admitted during the quarter, 33; returned, 3; under treatment, 340; number discharged during the quarter, 23; died, 6; number of patients in hospital August 31, 1881, 311. The admissions during the quarter were much larger than ever before, and the sum paid by the State for their care and treatment during the quarter amounted to \$20,282.85.

The total expenditure on account of the School for Deaf-Mutes, for the year ending May 1, 1881, was \$3,619.48; number of pupils enrolled, 31; average attendance, 27.

At the beginning of the year, the Oregon Railway and Navigation Company owned the following lines of road in Oregon and Washington: From the Dalles to Walla Walla, one hundred and fifty-eight miles; Blue Mountain extension from Whitman Junction to the State line, fourteen miles; Cascade Portage, six miles.

During the year the company has acquired by a lease of ninety-nine years the following lines: Narrow-gauge line from Ray's Landing to Brownsville, seventy miles; narrow-gauge line from Fulquartz's Landing to Airlie, fifty-three miles; narrow-gauge line from Sheridan Junction to Sheridan, seven miles; narrow-gauge line from Perrydale to Smithfield, four miles.

The same company has constructed the following lines during the year: From Walla Walla to Texas Ferry, sixty miles; with Dayton branch from Bolles's Junction, thirteen miles; grade-work on line from the Dalles to the Cascades, forty-six miles; grade-work from Umatilla to Pendleton, thirty miles.

During 1882 the company will build the following lines: From Umatilla toward Baker City as far as possible—probably one hundred miles; from Portland on to a point on the Oregon side of the Columbia two miles below Kalama, forty-three miles; to extend the Colfax road from Rebel Flat to a point on the Northern Pacific Railroad, forty miles east of Ainsworth, fifty miles.

The Oregon and California Railroad Company now owns two lines of road—from Portland to Roseburg, two hundred miles; from Portland to Corvallis, one hundred miles. During 1882 it will extend the east side line toward the junction with the California end of the line as far as possible.

The Oregon Pacific Company during 1882 propose to build a line from Yaquina Bay eastward toward Boisé City as far as possible, probably one hundred and fifty miles.

The relations of the Northern Pacific Railroad and the Oregon Railway and Navigation Company are set forth in the report of President Villard to the stockholders of the latter, dated September 15th, in which he says that his operations "resulted in the concentration of a controlling interest in the stocks of the two companies in an association of individuals, includ-

ing the principal stockholders of our company. This control over both corporations is now transferred to a third corporation, the Oregon and Transcontinental Company, with an authorized capital of \$50,000,000, of which, however, only \$30,000,000 is to be issued at present, and is now in process of being paid in. The large proprietary interest of this company in the other companies is the very best guarantee to the latter that its power will only be exercised to promote their legitimate development to the fullest extent. Or, in other words, the new company can only promote its own interest as a great holder of Oregon Railway and Navigation and Northern Pacific stocks by taking the best care of every other stockholder in both companies."

The State elections and the sessions of the Legislature are held biennially. The next occurs in 1882. (See "Annual Cyclopædia" of 1880.)

The population of the State by counties in 1880, as compared with 1870, was as follows:

COUNTIES.	1880.	1870.
Baker	4,616	2,804
Benton	6,403	4,584
Clackamas	9,260	5,993
Clatsop	7,222	1,255
Columbia	2,042	863
Coos	4,834	1,644
Curry	1,203	504
Douglas	9,596	6,066
Grant	4,303	2,251
Jackson	8,154	4,773
Josephine	2,485	1,204
Lake *	2,304	
Lane	9,411	6,426
Linn	12,676	8,717
Marion	14,576	9,965
Multnomah	25,203	11,510
Polk	6,601	4,701
Tillamook	970	408
Umatilla	9,697	2,916
Union	6,650	2,552
Wasco	11,120	2,509
Washington	7,082	4,261
Yam Hill	7,945	5,012
The State	174,768	90,923

OVERCOMERS. A new sect of Christian believers has sprung up near Chicago, Illinois, and has made a considerable number of conversions among persons who are described as belonging to the "comfortably situated and more intelligent classes of society." It is commonly known as the sect of the "Overcomers," the name being derived from the application of the word "overcome" as it is used in the following passages in the second chapter of Revelation and in other parts of the New Testament: "He that overcometh shall not be hurt at the second death" (Rev. ii, 11); "To him that overcometh will I give to eat of the hidden manna, and will give him a white stone, and in the stone a new name written, which no man knoweth saving he that receiveth it" (Rev. ii, 17); "He that overcometh, and keepeth my words unto the end, to him will be given power over the nations: and he shall rule over them with a rod of iron" (Rev.

ii, 26, 27). The sect was founded by M. H. G. Spafford, formerly a ruling elder in the Presbyterian Church, who was engaged in the revival meetings that were held in Chicago a few years ago under the preaching of Mr. D. L. Moody. Mr. Spafford was led, by the studies which his participation in the revival meetings incited him to make, to the acceptance of the doctrine, which was at variance with the confession of his own church, that only those who "overcome," or wholly converted Christians, are immediately saved, while all others, including the mass of the persons regarded in the Orthodox churches as "converted," are "hurt at the second death," and cast into the lake of fire, where they remain and suffer till they are purified; and that punishment is not eternal, but "age-abiding," and lasts only until the purification is accomplished. He was excluded from his church for heresy, when he, together with a number of other church-members who, having adopted his views, had withdrawn from their churches, organized a new congregation. The Overcomers believe that the Scriptures are the inspired word of God, and accept the doctrine of the Trinity; and they claim that their church was organized with Abraham, and has since that time been buried away as a church, but that the religion to which it testifies has been represented by sanctified persons in the corporate Church throughout the intervening ages. At the same time, they renounce church organizations, and teach that the true children of God, who constitute the "Bride of Christ," are called to step out and show the world in their lives—in every movement of their lives—a higher type of absolute holiness, urging a complete and entire consecration of the whole being to the service of God. They hold that all souls will finally be restored through the atoning blood of Christ, but that, if a soul is not entirely consecrated to the service of God in this life, it must suffer severe purgatorial punishment. Some of the sect are said to believe that they possess a degree of inspiration and gifts of healing, such as were exercised by the apostles on the day of Pentecost. A congregation of Overcomers has been organized at Lake View, near Chicago, Illinois, and another, a larger one, at Valparaiso, Indiana. A party of seventeen persons of this sect started during the summer of 1881 for Palestine, where, they believe, they had a divine mission to gather the Jews into the land of their inheritance, and rule over them.

OYSTER-BEDS, DETERIORATION OF. The failure of the oyster-beds of the New England and Middle States, the deterioration of those lying in Southern waters, and the necessity of some efforts, either upon the part of the State governments or by individuals, to maintain the supply of oysters in sufficient numbers to satisfy the large and increasing demand of the consumers, have of late excited much attention. There is no doubt that the natural beds

* In 1875, from part of Jackson.

of the North are practically exhausted, and that the production of the Southern beds (of Maryland and Virginia) is greatly diminished. It is not probable, however, that the area of the latter has decreased, notwithstanding various estimates to the contrary, arising out of the increased price of oysters, and the lack of care and protection to the oyster-beds. Admitting that the Northern beds are practically exhausted, and have become mere fattening-places for the transplanted Southern oyster, it is still open to question whether the beds of Maryland and Virginia are deteriorating.

It being impossible to speak with perfect accuracy of the entire area covered by oysters in these States, it may safely be assumed that the condition and peculiarities of beds in one district will serve, approximately at least, to express the condition of all the rest. The only locality which has been thoroughly studied lies on the eastern shore of Chesapeake Bay, opposite the mouth of the Potomac River. This was done in 1878-'79, and includes the survey of the beds of Tangier and Pocomoke Sounds, and ascertaining the depth of the water over the beds, the direction and force of the currents, the character of the bottom, the effect of gales, ice, and freshets, and also of fishery with dredges or tongs.

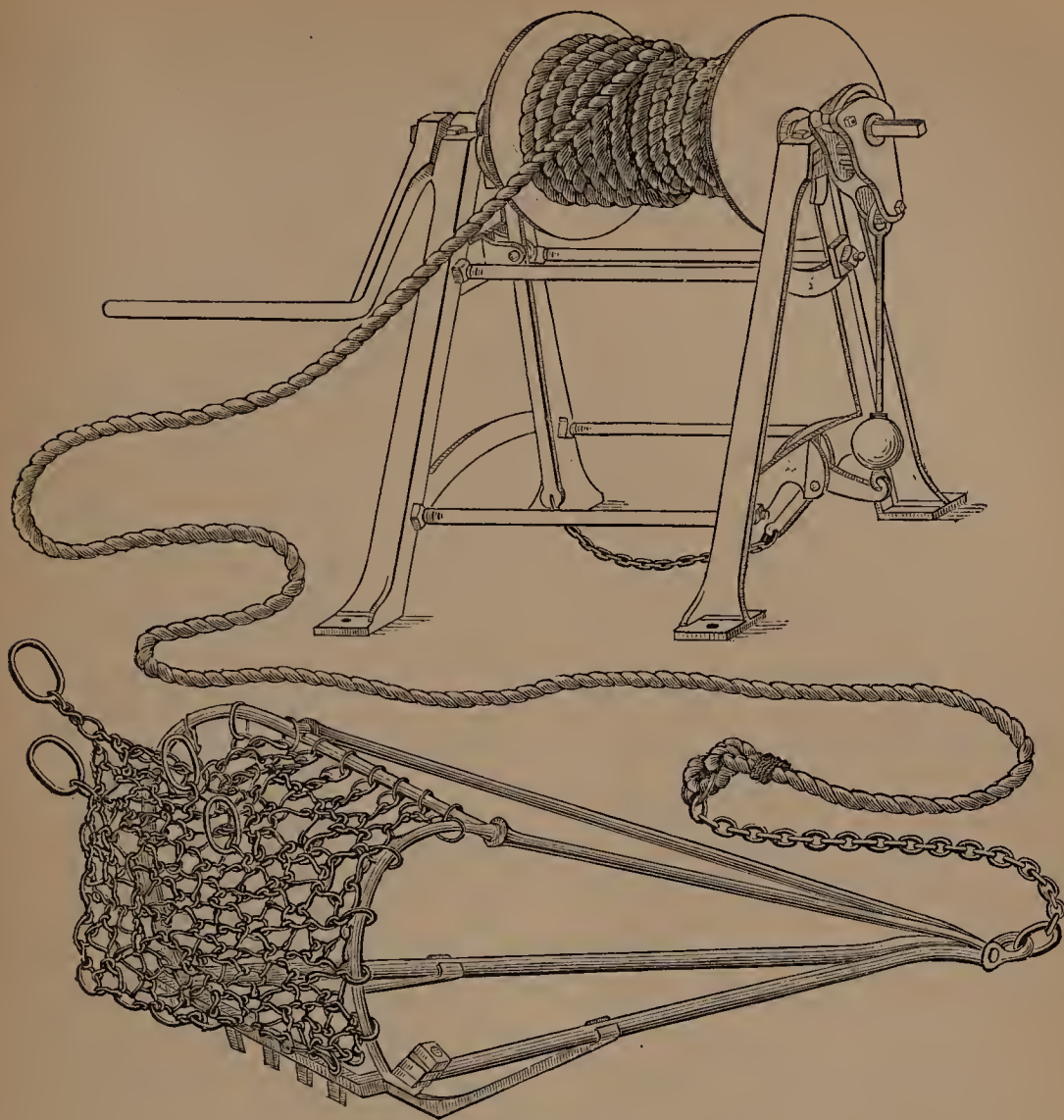
Tangier and Pocomoke Sounds are arms of Chesapeake Bay, and lie opposite the mouth of the Potomac, on the eastern side of the bay. The former extends about thirty-six miles north, is separated from the bay by a chain of low, marshy islands, and receives the waters of several creeks and rivers. The shoals on either side of the channel are covered with oyster-beds, and, where there are no beds, oysters are scattered in groups or singly. They are also found as continuations of the beds, and, generally speaking, oysters may be taken in varying numbers throughout Tangier, in depths of between one and six fathoms. Pocomoke Sound is twelve and a half miles long and about nine broad near the middle. The channel is narrow and tortuous, and the main body of the sound is shoal, and these shoals covered with oysters, singly or in groups, or in large, well-defined beds. Several creeks and the Pocomoke River empty into this sound. The beds were located and marked off, and the area ascertained approximately. The entire area in both sounds upon which oysters were found amounts to fifty-four square miles. The area of the beds proper, where the vessels for dredging mostly work, amounts to six square miles in Tangier and four in Pocomoke Sound. From the examination made in 1878 it appears that the number of oysters on the beds has greatly diminished during the last thirty years, that the area of the beds has greatly increased, and that there has been no change of the usual natural conditions to which oysters are subjected.

The question then arises, What natural cause or causes would both expand the beds and

diminish the number of oysters? A bed is extended naturally by the drifting "spat," or young brood, attaching themselves to any appropriate "cultch" contiguous to the bed. This extension is greatest in the direction of the currents, and unless some substance is interposed between the soft bottoms (which are destructive to young broods) and the drifting "spat," they will sink into it and be destroyed. Nature offers very little help in the way of preventing this destruction, and hence the great expansion of the beds must be assigned to other agents than natural causes. The diminution of the number of oysters might have been effected by deposits of earthy or vegetable matter, so as to bury both old and young oysters; but there is no evidence of any such deposits ever having been made. Again, a change in the character of the water and bottom might deprive oysters of their proper food, and cause their deterioration and destruction; but such a change would act suddenly, and impair the flavor and vitality of those that escaped. Inasmuch, however, as no such impairment has taken place, but on the contrary the oysters are larger and finer than formerly, no force can be attributed to this as a cause of the diminution of the oysters. These, then, being dismissed as inadequate, the real cause is to be sought in the agency of man.

The oyster-fishery in these localities is carried on chiefly by the process of "dredging." This is performed as follows: A dredge or scrape resembles a large iron claw, the nails representing the teeth of the dredge. To the back of this is fastened a bag of iron mesh-work, large enough to hold two or three bushels. Dredges vary in size from two to five feet across the mouth, and of greater or less weight. Dredging-vessels vary in size from five to thirty tons, and all use two dredges. These are dropped one from each side, and the vessel being kept under easy sail, they fill and are hauled in by a small winch. They are then emptied, and the process repeated. The mud, sand, sponge, etc., are separated from the oysters, and, together with the oysters unfit for market, thrown back into the water. As the limits of the dredging-grounds are not defined, the vessels frequently drag quantities of shells and oysters beyond the boundary of the beds. After "culling" the oysters, or separating them from the old shells, these shells are thrown back again, and many young oysters with them. If these fall on suitable grounds, sufficient to support them, they form a small colony, which soon after, by the action of the dredges, becomes attached to the main bed, and thus increases the area of the latter.

A further question presents itself. Will the dredging also account for the diminution of the oysters? Without discussing here the question of propagation, it may be stated that the male and female of the American variety of oyster expel the generative matter into the water, where the eggs must meet the male



OYSTER-DREDGE.

fluid in order to be fertilized. Hence, the more compact the bed, the greater the chance of the ova and spermatozoa coming in contact. If the mature, spawn-bearing oysters are very much diminished in number, or widely separated from each other, the chances of contact are slight, and there is a failure of reproduction. But the removal of brood-oysters is not the sum total, by any means, of the effects of the dredging. Millions of young oysters, unfit for market, are carried off sticking to the shells of the mature oysters, and nearly as many young are destroyed by being thrown from the dredging-vessels upon soft or unfavorable bottoms. As, then, theoretically, dredging would extend the beds and destroy their fecundity, it may be asked whether this has been, practically, the case.

The testimony of the fishermen is unanimous as to the extension of area, some of the beds having doubled in size during the last thirty years. They also testify that the beds have materially deteriorated during this period.

Stronger evidence, however, is afforded by investigation, made in 1879, in regard to areas in Chesapeake Bay where oysters existed in a locality known to very few fishermen. Here the oysters were found in clusters of from three or four to twelve or fifteen, with clean, white shells, and the spaces between the larger ones filled with the young growth and barnacles. The mature oysters were long and narrow; whereas, in beds worked for some time, oysters are usually single, or in clusters of two or three, the animals are fatter and thicker, and the shells are dirty, with much mud or sand clinging to them. These new beds were found to be hard, and the clusters more firmly attached to the bottom, while the beds in the sound were soft, and the oysters easily obtained by means of the dredge. All the oysters examined during the season of 1879 were measured and distributed into four classes, the first two the mature, the last two the young growth. Over twenty thousand were measured and classified, and the ratio of the young growth to

the mature was found to be as three to two. Over 100,000 oysters were taken from the beds in the sounds, and measured and classified in like manner, and the ratio of young to mature was found to be as three to six. Thus on the new beds the young outnumbered the mature, while on the worked beds in the sounds the mature outnumbered the young growth.

The action of the dredge is very destructive to the oysters remaining on the bed, by not only roughly detaching them from different objects to which they cling, but also leaving them in such positions as to prevent their opening the valves without letting in mud or sand. Thus the dredge causes the destruction indirectly of a large number of oysters that remain after its passage, and hence the number of old, empty shells should be greater upon a bed that has been dredged than upon one that has not; and if that number is very large, it shows that the population of the bed has been destroyed. The quantity of matter brought up by the dredge was measured during the season of 1879, and also the quantity of oysters and of *débris*. On the unworked beds, this latter amounted to 30 per cent of the whole quantity of matter brought up; while in the sounds the *débris* was much greater, and in Pocomoke Sound it amounted to 97 per cent.

During the season of 1878 a method was devised by which the number of oysters to the square yard could be determined approximately; and in accordance with this the number to the square yard should be greater upon the old beds than the new. If, on comparing the results of successive seasons on the same bed, it is found that the number of oysters to the square yard is decreasing, it may be concluded that too large a number is annually removed. Investigation showed that, on 60 per cent of the beds in Tangier Sound, there was a decrease in the number of oysters in 1878-'79, and that on 60 per cent of the beds the number of oysters to the square yard was *less* than on the newly discovered beds in the bay, and in no case was the number much greater. In Pocomoke Sound, *on every bed* the number of oysters to the square yard was *considerably less* than in 1878, and also *much below* the number on the new beds in the bay.

It is evident that, if the number of the young growth falls below the number of the mature oysters, the fecundity of the bed is impaired; yet it does not follow that, if the young outnumber the mature, it is a sign of increased production. From the beds in question many millions of oysters are annually removed, of which a large percentage is mature, and, if this removal of one class is excessive, it might show itself in the increased ratio of young to mature. Supposing this to be the case, the young would greatly outnumber the mature for about three years, or the period to pass from youth to maturity. During this period there is a constant removal of the brood-oysters, so that, at the end of three years, the ma-

ture would probably outnumber the young, and the ratio be abnormally small, as it was abnormally large. With this large number of mature oysters there would be increased production, and at the end of three years, again, the ratio would change, while the number of oysters will constantly be diminishing. In time, however, the brood-oysters will become so scarce that the fertilization of the eggs will be more and more improbable, and the young remain in the minority; so that, if the fishing continue, the entire destruction of the breeding power will be but a matter of time.

It was estimated, from careful investigation, that the number of oysters removed, in 1878, was over 1,500,000 per day, and in 1879, over 700,000 per day. In the sounds the dredging continues throughout the year, though little is done in the summer months. The law sanctions the working of the beds from October 1st to May 1st. If confined to this period, with only three full working days each week, the dredging season would be about 120 days, and in that time there would be removed, by the estimate of 1878, over 184,000,000 oysters, and, by the estimate of 1879, over 89,000,000 oysters. The number of young growth would be, by the first estimate, 148,000,000; by the second, 36,000,000. The statistics of 1879, compared with those of 1878, show that there were twice as many vessels at work in 1878 as in 1879; and the difference of young growth is due to the fact that the summer of 1879 was a bad one for the "spat," and consequently there was a failure of "young." The mortality among the young after attachment is about 50 per cent, and consequently only about 74,400,000 of the young removed in 1878-'79 would have attained the age of one year. If none of the oysters had been removed from the beds, there would have been about 259,000,000 more on the beds than was actually the case, and of that number 71 per cent were mature and spawn-bearing. Now, as 65 per cent of those in the beds are mature, the adding of 250,000,000 would increase the percentage to 68, or the young growth would be in a more hopeless minority than before.

There are, then, three indications of the deterioration of the beds: The number of the young is either much smaller or much larger than the number of mature oysters, and in the latter case is so large as to be abnormal; the amount of *débris* found on the beds is much greater than in the newly discovered areas; and the number of oysters to the square yard not only falls below what it should be, but has decreased since the first examination in 1878. Considering the testimony of persons living in the vicinity of Tangier and Pocomoke Sounds, and the results of the comparison of the worked beds in the sound with the unworked ones in the bay, it may be concluded that the former areas are much impaired in productive power, and, the same reasons continuing to operate, there will be a constant deterioration until that

productive power is entirely destroyed. This deterioration and impaired fecundity can only be accounted for by the excessive and exhaustive fishery in the sounds, from which heretofore the beds in the bay have been free. Quite probably, were the remaining beds in Chesapeake Bay examined carefully, they would show indications of deterioration similar to those discovered in the Tangier and Pocomoke beds.

It can hardly be doubted that this deterioration is due to the severe fishing, and that in time, unless this is stopped, it will produce utter exhaustion. Foreign experience aptly illustrates this. The records of production of the beds of Cancale Bay, on the northwest coast of France, extending over a period of about seventy years (1800 to 1868), are very instructive. The beds comprise an area of about 150 acres, and, from 1800 to 1816, produced annually from 400,000 to 2,000,000 oysters. During this period the beds became so thickly stocked that the oysters were in some places a yard thick. Subsequently the fishery was much increased, and the oysters were removed in larger quantities till 1843. From 1823 to 1843 it is supposed that the dredgers were living on the oysters accumulated between 1800 and 1816. In 1817 the number produced was 5,600,000, and until 1843 there was a constant increase, the number taken in that year being 70,000,000. In 1848 it was 60,000,000, and thenceforward there was a constant decrease. From 1850 to 1856 the decrease was from 50,000,000 to 18,000,000. From 1859 to 1868 the decrease was from 16,000,000 to 1,079,000, the oysters having almost entirely disappeared, though the inhabitants, on account of their suffering, dependent condition, were not hindered from fishing. In 1870 there was a complete wreck of the bottom, which could only be remedied by a total prohibition of the fisheries for several years. Similar results occurred in other places on the west coast of France, where, when in 1854-'55, 15,000,000 oysters were taken from the beds, only 400,000 could be obtained in 1863-'64. The testimony of English experience also corresponds with that just given, and is equally valuable with reference to the course which must sooner or later be taken in our country for the preservation of the oyster-beds from complete ruin.

It is true that our beds are so extensive, and oysters are so widely distributed and so easily transported and transplanted, that the total failure of the American beds must be postponed for some time. But the failure of beds in different localities may occur at any time, and probably those of Chesapeake Bay will not last many years. The deterioration and exhaustion of our beds would cause great distress and inconvenience in the United States, where the oyster is no luxury simply, but a means of support to large numbers. Not only are oysters consumed with us in every part of the Union, but immense numbers are also annually ex-

ported. Hence, by the deterioration of the beds, not only would the price be much increased for all classes, but the poorer among our citizens would many of them be thrown wholly out of employment.

To this statistical and historical account we subjoin a description of the natural history of the oyster, with special reference to the process of reproduction, and the conditions influencing the rate of increase. For material employed here we are indebted to articles contributed by Lieutenant Francis Winslow.

An oyster-bed, in its natural and undisturbed state, consists of a long, narrow ridge of shells and oysters, lying generally in brackish water, on and surrounded by sticky bottoms, a mixture similar to clay and mud being the most favorable. The form and area of the bed are variable, but naturally the length is greater than the breadth, and the greatest dimension is usually in the direction of the current. The bed itself is made up of masses of shells and oysters, covering areas of different sizes, and separated from each other by mud or sand-sloughs, though frequently it is unbroken, and the animals spread evenly and continuously over the entire area. The oyster thrives best in slightly brackish water, and the finest varieties are usually found in water of a lower specific gravity than that of the sea. The main necessity is that the water should contain a sufficient amount of lime to furnish the animal with the principal constituent of its shell. That part of the oyster usually known as the heart is a muscle, called the adductor muscle; its office is to keep the valves or shell closed, and prevent the ingress of hurtful matter. The two valves are hinged at the round, blunt end of the shell, and between this hinge and the adductor muscle lies the body of the oyster, or *visceral mass*, which is made up of the light-colored reproductive organs and the dark-colored digestive ones, packed together in one continuous mass. The mouth of the oyster is that part nearest the hinge, and what is usually called its "beard" is known as the "gills." The oyster lies on its side in the shell, and the minute animal and vegetable matter contained in the water forming the food of the animal is passed between the gills to the mouth, by the action of myriads of small vibrating hairs, called *cilia*. These cover the surface of the gills, and cause a strong current to set into the lips of the valves, thus bringing in not only what is suitable for food, but other minute particles of matter.

The European oyster (*Ostrea edulis*) and the American oyster (*Ostrea Virginiana*) are varieties of the same family, and, though differing in several particulars, are not so dissimilar but that the conditions favorable to the growth and life of one may be considered as equally so for the other. With each variety the formation of the generative matter is gradual, and the spawning-season of both is during the early summer months, its advent depending probably

upon the temperature, the higher temperature hastening and the lower retarding that event. Generally, both in Europe and America, the spawning-season may be said to be from June 1st until August 15th, though variations of the temperature and density of the surrounding waters may expand or contract that period considerably.

All authorities upon the early stages of the European variety concur in the statement that the young oyster, or "spat," is formed by the fertilization of the eggs of the female while within the shell of that animal, and that the "spat" is held between the gills and thus protected by the parent until the shell is formed. Many authorities are also of the opinion that the parents are hermaphrodites; but the accuracy of this view is open to much doubt. The most material difference between the European and American varieties is in the manner of impregnating the eggs of the female. According to the best authorities, the eggs of the European variety are fertilized by the passage of the male fluid into the water, and thence between the valves and gills of the female. The young resulting from the union of the ova and spermatozoa are held and protected within the gills of the female until the shells are formed, and until they are quite well advanced in development, having at the time of their expulsion locomotive powers of their own, which enable them to swim about and seek a fit place for attachment.

The American variety differs in this, that the young oyster is not found within the gills of either parent, nor does the fertilization take place within the shell, but the contents of the generative organs of both sexes are expelled into the water, there to stand the chance of coming into contact. It is evident that a large measure of protection is afforded the young of the European variety by the inclosing shells of the parent, and that this protection is given during the most precarious stages of their existence, while the ova and spermatozoa of the American oyster are not only left to a happy chance for their successful union, but the resulting young are exposed, unprotected, to all the vicissitudes of climate, and to the ravages of all enemies.

After the formation of the shell and the development of the locomotive powers, the young of both varieties begin their search for a permanent resting-place or point of attachment. Such points of attachment must soon be obtained, or the young oyster perishes. Any moderately rough, hard substance, provided the surface is clean, is suitable for the purpose, and such objects, placed so as to attract the young brood, are called "cultch." Pieces of wood, planks, stones, old shells, tiles, etc., have been successfully used. Upon finding the "cultch," the "spat" attaches itself firmly, and thenceforward, so far as its own power is concerned, is located for ever.

The development is now one of ordinary

growth, the animal having passed through its embryonic life; its organs are formed and in active operation; it is but immature. The American variety increases more rapidly than the European. Observations during the summer of 1879 in Chesapeake Bay show that, in the first three months of existence, the oyster increases in size from a hardly visible speck to an average length of one and a quarter inch, and a few were over two inches long. After the first year the increase is not so rapid, and oysters of two or three years of age are about two inches broad and three inches long. In three years, at the most, the American oyster is considered mature. With the European variety the growth is much slower, and at maturity they are very much smaller than the American oyster.

With all animals Nature strives to provide against the destruction of the young after birth by insuring a sufficient number to allow for all ravages; and the greater the danger to the immature the larger will be the number provided to meet those dangers. Hence, as the embryo European oyster receives some protection and the American none, it is inferred that the number of American embryos in any community will be subjected to greater danger, and consequently it is probable that a larger number of eggs and spermatozoa are provided, that the production may not be less. Investigations seem to support this conclusion. Professor Möbius, in his work on the oyster and oyster-culture, estimates the number of eggs spawned by the European variety as nearly 2,000,000, and his estimate is supported by Eyton, in his "History of the Oyster and Oyster Fisheries." Professor Brooks estimates the possible number of eggs spawned by the American variety to be as large as 60,000,000, and the average number to be over 9,000,000, or about nine times as many as the European variety spawns. The number of embryos surviving and maturing can not be accurately stated for either variety, as we have not data sufficient to determine the question. The results, however, of Professor Möbius's examinations of the Schleswig-Holstein beds are valuable and suggestive. These were made by government officials from 1730 to 1852, in the following manner: Each bed was dredged over in three or six places, according to its size, and the oysters taken were divided into three classes, and carefully counted. The classes were styled marketable, medium, and young growth. The first were the full growth and mature, from two and three quarters to three and a half inches in length and breadth, and about seven tenths of an inch thick. The medium oysters were those half grown, from six to seven tenths of an inch thick, and about three inches in breadth. The young growth were those of one or two years old.

From these observations, made annually, Professor Möbius discovered that there were on an average 421 medium oysters to every

1,000 marketable ones—that is, out of every 1,421 oysters, 1,000 were full-grown. And he gives it as his decision that about 1,000,000 eggs are spawned by each oyster, and that about 44 per cent of the oysters on a bed spawn each season. From the above it is evident that 1,000 oysters would void every season 440,000,000 eggs, and that only 421 of the resulting embryo would survive, or 1,045,000 eggs would perish where one survived. But the medium oysters also spawn, though sending forth a less number of eggs, and Möbius estimates that 421 in the community would produce about 60,000,000, or the 1,421 would spawn together about 500,000,000 eggs, and from these 500,000,000 only 421 oysters would be produced, or, where one oyster arrived at maturity nearly 2,000,000 eggs or oysters perished!

Some efforts have been made to obtain data in regard to decrease in number and increase in size of American embryo oysters. These efforts were put forth in Tangier and Pocomoke Sounds in the summer of 1879, when a number of earthenware tiles were deposited as "spat"-collectors. On inspection it was found that the oysters continued attaching until about the 20th of August, and that the largest number attached about the first of the month; between August 23d and October 10th the mortality was shown to be fully 50 per cent; future examinations of the "spat"-collectors will probably show a diminished mortality, as the animal will be better able to protect itself as it increases in size, but the destruction among the unprotected, delicate embryos must be immense, and (as it is as great as 50 per cent after attachment) it must be much more serious prior to that event.

Lieutenant Winslow gives, as the result of his observations in 1879, that on a natural unworked bed the ratio of young oysters to those of mature age is as one to two, or where there are 1,500 oysters 1,000 would be matured and 500 young. Professor Brooks estimates the number of eggs voided by the American oyster at from 9,000,000 to 60,000,000; 10,000,000 may be taken as an average. The 1,000 mature oysters in the community would then spawn 10,000,000,000 eggs, and as the young European oyster has been found to spawn about one third as many as the mature animal, we may consider the same to be true for the American variety. The 500 young would then spawn 1,600,000,000 eggs, or the total number in the community would spawn 11,600,000,000 eggs, from which would result 500 oysters, or about 20,000,000 eggs or oysters would perish where one was preserved. Lieutenant Winslow's observations convince him that the beds of Pocomoke Sound at least are in a condition very similar to the French beds before they were subjected to the action of protective laws. As these have been made to yield again a profitable return, it may be well here to take note how protection is rendered effectual.

The French Government assumes control of all oyster-beds and fore-shores. Dredging is fixed for a certain time, which is determined by the local commission. A third or a fourth of a bed is buoyed off each year, and dredged only for removing weeds, mud, vermin, etc. The remainder of the bed is open to all licensed persons for a specified time. The following year another part is reserved, and occasionally portions are reserved for longer periods. In accordance with government regulations the beds are not to be opened for fishing until the "spat" has acquired strength to resist the action of the dredge, say until the end of January. A bed with well-established breeding qualities has a fourth or fifth part of its area set apart as a reserve, and dredging over such part is prohibited. A fishery guard-boat is expected to take part in the working of each bed. A bed encumbered with weeds or other noxious matter is opened for dredging until cleansed. Beds on which there is never any production of "spat" are to be kept open through the season, and after working any bed it is required to be examined, and, if necessary, the "cultch" replenished. The close-time is between May 1st and August 1st, and is strictly observed.

By these means the beds on the French coast have been much improved. It may be well to see how foreign experience can be utilized for our good in this matter.

The deterioration of an oyster-bed and its impaired fecundity will be shown in five several ways: 1. By the general appearance and condition of the beds and animals, the prevalence of mud and sand, the oysters being large and single, and the shells covered with worms, etc. 2. The ratio of young to mature oysters will be abnormally large or small. 3. The amount of *débris* in the bed will be very large (say as much as 50 per cent of the contents of the dredges). 4. The number of oysters on the beds will be found to decrease each year. 5. The discovery of unusual inhabitants of the beds other than oysters, or, in general terms, marked changes in the fauna of the beds, indicate deteriorations. In cases like these protection must be assured in order to prevent entire destruction. If deterioration is due to excessive fishery, that must be prohibited; but, as many of our poorer fellow-citizens find support in this industry, restriction manifestly must be used, not entire prohibition. The larger the area, of course the less exhaustive will be the fishery in any particular locality, for the fishermen will naturally leave old and worn-out beds and seek for those newly discovered and well stocked. Fortunately for us, the area covered by oysters along the coast of the United States is so great that at present when any bed or locality begins to fail the fishery is transferred to other points. This is shown by the fact that vessels have left the sounds and work now in the beds in Chesapeake Bay.

In time, however, the entire areas will be known, and all future extension of the fishing-ground will be artificial in these areas. New beds will probably be found off the mouths of creeks or rivers, and not far from beds already known. The extension of old can be effected by depositing suitable "cultch" upon the bottom near the beds, so as to afford a place for the attachment of the drifting "spat." Stones, ballast, old shells, etc., make excellent cultch, which should be exposed late in the spring. A number of mature oysters being deposited with the shells, materially aid in extending the beds.

As the consumption of the oyster is constantly increasing, any failure of supply will of course add to the price and induce exhaustive fishery; and in time it will become so great that strict protective laws, rigidly enforced, will be required in order to prevent the destruction of this branch of industry.

Inasmuch as legislation on this subject will probably be needed ere long, Lieutenant Winslow suggests several points worthy of consideration. Organized and systematic efforts ought to be made to discover new beds and to extend the old ones. Experiments also, looking to the artificial cultivation of oysters,* ought to be made and continued. A fishery commission, composed of intelligent men, with

special knowledge on this subject, should be appointed; and a fishery-guard should be put under their control. This commission should endeavor to prevent exhaustive dredging; to secure the reservation of beds containing a large number of young growth; to put a stop to the removal of the young growth; to enforce the strict observance of the close times; to see that the beds are cleansed before the advent of the young brood; to have exposed suitable "cultch" when the bed has been long worked; and to destroy star-fish, drills, etc., that may exist on the beds. The following warning is given by Professor Möbius: "In North America the oysters are so fine and so cheap that they can be eaten daily by all classes; hence they are now, and have been for a long time, a real means of subsistence for the people. This enviable fact is no argument against the injuriousness of a continuous and severe fishing of the beds. . . . But as the number of consumers increases in America the price will also surely advance, and then there will arise the desire to fish the beds more severely than hitherto; and if they do not accept in time the unfortunate experience of the oyster-culturists of Europe, they will surely find their oyster-beds impoverished for having defied the *bioconotic* laws."

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PANAMA CANAL. The project of connecting the Atlantic and Pacific Oceans, by means of a tide-level ship-canal across the Isthmus of Panama, has been carried through its preliminary stages during the year, under the charter granted by the Colombian Government to a French company. The first constitutive meeting of the Interoceanic Canal Company, to which the grant of the original International Company (see "Annual Cyclopædia," 1878, title COLOMBIA) had been transferred, was held in Paris on the 31st of January, M. Ferdinand de Lesseps presiding. A report was submitted by M. de Lesseps, in which the impracticability of the rival Nicaragua scheme was dwelt upon, and it was stated that agreement with the United States authorities had been reached, subject only to the proviso that the neutrality of the canal should be assured. It was further stated that subscriptions had been received for 1,209,609 shares of the stock of the company, of which 994,458 were given in France. The entire capital would be 600,000,000 francs, one half of which would be covered by the issue of obligations, the other half being distributed in shares of 500 francs each. The report also made known that seventy engineers, superintendents, and doctors had already been sent to the Isthmus, that steam-engines had been ordered, and that arrangements would be made for the employment of 8,000 laborers. A sec-

ond constitutive meeting was held on the 3d of March. The report then made stated that there were 102,230 shareholders, and that the work would probably be completed in 1888. Borings and examinations which had been made showed that there would be from 73,000,000 to 75,000,000 cubic metres of earth to be removed. The estimated cost of excavation was 430,000,000 francs; construction of weirs and trenches to convey fresh water to the sea, 46,000,000 francs; and the establishment of a dock and tide-gates on the Pacific side, 36,000,000 francs—making the total cost 512,000,000 francs. The contractors, Messrs. Couvreux and Hersent, whose operations were placed in charge of M. Blanchet, would begin the great cutting at Culebra by October, and, before the end of the year, work would be begun all along the line. At this meeting the company was unanimously declared to be definitely constituted.

The engineers and others, who left Paris early in January, arrived at the Isthmus about the middle of February. M. Blanchet followed in April, for the purpose of pushing forward the surveys and examinations of the ground as rapidly as possible, and preparing for the work that was to follow. There were already seventeen brigades of surveyors in the field, and it was announced that the results of their examinations were so favorable that it was believed that the route would be somewhat shortened, and the time and expense necessary

* See "Annual Cyclopædia," vol. xix (1879), p. 591.

to carry out the undertaking would be less than had been estimated. There was more earth and less rock to be removed than had been supposed, and the rock was less difficult to deal with. In addition to the final surveys, much was accomplished in the way of collecting machinery and supplies, establishing quarters for workmen, and getting laborers together. M. Blanchet succumbed to the climate and the effects of overwork, and died on the Isthmus in November. M. Roux, who was the chief in charge of the sounding and testing of the material to be excavated, returned to Paris in the autumn. The following extracts are from a statement made by him to a correspondent on the 23d of November:

I find that from Colon to Tiger Hill the route adopted for the canal runs almost entirely through alluvial soil. Here and there you have volcanic tufa, however. From Tiger Hill to San Pablo we have conglomerate soil, clays, etc. Between San Pablo and Matachin we come to the alluvial formation of the Chagres, whence for some distance the level of the district traversed is very little above that of the sea—twenty-five metres, or say eighty feet at most. At Matachin the canal will run through the most difficult part of the route. Here we have to do with solid rock—a most characteristic specimen of which is met with close to the cataract of the Rio Obispo. The rock is hardest just beyond the cataract—on the Panama side. Next comes more clayey tufa, overlying the dolomite of the Cerro Culebra, the highest point on the canal route. From Matachin to Culebra the cuttings will be extremely deep—in parts as deep as eighty-seven metres (roughly three hundred feet), and hereabout we have been brought face to face with a most difficult problem—perhaps the most difficult we have had to deal with—what inclination should the canal-banks have? This point has had my most careful consideration. On a superficial view of the question it would seem natural to cut down in as nearly perpendicular a line as possible. Indeed, many engineers—some of them Americans—pressed us for a summary settlement of the difficulty in that sense. It seemed to me, however, in the highest degree foolish and reckless to give so grave a matter a solution without previous investigation of the most serious kind. A perpendicular or nearly perpendicular cutting would, of course, have great advantages, if it could be made, for it is evident that the slightest additional inclination given to the banks must enormously increase the quantity of rock to be removed, and therefore the labor and expense. Nevertheless it was decided that the local formation should be examined minutely from the summit to the very bed of the projected canal. I feared that the upper strata of rock might be found to rest on a rotten and unstable foundation. In reply to the suggestions made me I said, "Let us see whether this rock has a stable basis." In the sequel my doubts were shown to have been reasonable. At about one hundred feet from the rocky surface I came to tufa, which, though originally clayey, had gradually become sandy and aquiferous (*sables agglutinés and aquifères*). Now, had we listened to the advice of our over-hasty engineering friends and decided to cut straight banks, the superstratum of rocks, resting on a sandy foundation, must have fallen into the bed of the canal and blocked it. We shall therefore have to make the banks slope considerably.

The Panama Canal Congress was much exercised by the numerous and periodic inundations of the Chagres. To oppose them it was suggested that an artificial *barrage* should be constructed at Gamboa. It has been proposed that the enormous amount of clay at Culebra should be transferred to Gamboa. Being water-tight, it would make an admirable barrier, and no masonry would be needed. The engineers incline

to the idea of constructing a railroad, with at least eight parallel lines, close to the Culebra Mountain, and of shoveling the clay into the Chagres Valley.

But to return to the canal route. From Culebra to Panama it will run through solid pyroxenic rock and sandstone tufa, such as you may see on the Bovedas promenade at Panama.

As regards the actual execution of our plans, we have as yet not done very much. But the ground has been thoroughly prepared, and we shall now go ahead fast. Operations have been begun on the Colon side of the Isthmus. The excavators are at work, and workshops have been erected for fitting together and repairing the immense quantity of machinery we have ordered. The excavators and drags selected by Messrs. Couvreur and Hersent are of the most powerful kind. The drags will be capable of removing from eighteen hundred to two thousand cubic metres of subaqueous alluvial matter daily. As regards the rock, my idea was to use the compressed-air perforators employed so successfully at Freggio, the Prato, the Mont Cenis, and the St. Gothard. Nothing is yet definitively settled about these perforators. We have not pierced through any rock. Up to the present we have been busied with preliminary investigations, soundings, hydrographic surveys, etc.

M. Roux thought the work could be completed in seven years, but much depended on the health of the workmen. The climate was not so unfavorable as had been reported. Yellow fever was not epidemic on the Isthmus, though there were local fevers which were more or less dangerous, but not sufficiently prevalent or unavoidable to threaten serious embarrassment. There were at that time from 1,500 to 2,000 workmen in the employ of the company; the majority of them natives—negroes and Indians. There were also some blacks from Jamaica, some Chinese, and a number of Europeans.

About the first of June a majority of the stock of the Panama Railroad Company was purchased by the canal company, and arrangements were made for absorbing the whole of it on certain terms, with the consent of the individual holders. The nominal amount of the stock of the railroad company was \$7,000,000, but it had been paying a dividend of 20 per cent, and the shares had been quoted as high as \$275. The total cost to the canal company of securing possession of the railway property was about \$20,000,000.

The prospect of a successful prosecution of the canal enterprise has raised the question of its relation to the public interests of various commercial nations. The original contract made by the Colombian Government with the Civil International Society of the Inter-oceanic Canal, whose rights and privileges have been transferred to the Inter-oceanic Canal Company, contains the following provision, constituting Article V: "The Government of the republic declares neutral in all times the ports of both extremities of the canal and the waters of the latter from ocean to ocean; and consequently, in case of war between other nations, the transit through the canal will not be interrupted by this motive; the mercantile vessels and the people of all nations of the world will be permitted to enter the said ports without be-

ing disturbed or detained. In general, every vessel may pass freely without any distinction, exclusion, or preference of nationalities or persons, on payment of the dues and under observance of the rules established by the privileged company for the use of the said canal and its dependencies. Exception is made of foreign troops, who may not pass without the permission of Congress, and ships of the nations at war with the United States of Colombia, who have not previously acquired the right of passage in all times by treaty stipulations guaranteeing the sovereignty of Colombia over the Isthmus of Panama and the territory where the canal is excavated, as well as the immunity and neutrality of the same canal, its ports, bays, dependencies, and adjacent seas." Article XXI of the same contract declares that the grantees, or whoever in future may succeed to their rights, "may transmit them to other capitalists or financial societies, but it is absolutely forbidden to cede or hypothecate them to any foreign nation or government." A violation of this prohibition would forfeit all the rights granted.

Article XXXV, of "a general treaty of peace, amity, navigation, and commerce between the United States and the Republic of New Granada," which was concluded at Bogota, December 12, 1846, ratifications of which were exchanged at Washington, June 10, 1848, which is still in force, runs as follows:

The United States of America and the Republic of New Granada, desiring to make as durable as possible the relations which are to be established between the two parties by virtue of this treaty, have declared solemnly and do agree to the following points: For the better understanding of the preceding articles it is and has been stipulated between the high contracting parties that citizens, vessels, and merchandise of the United States shall enjoy in the ports of New Granada, including those of the portion of Granadian territory generally denominated the Isthmus of Panama, from its southernmost extremity until the boundary of Costa Rica, all the exemptions, privileges, and immunities concerning commerce and navigation which are now, or may hereafter be, enjoyed by Granadian citizens, their vessels, and merchandise; and this equality of favors shall be made to extend to the passengers, correspondence, and merchandise of the United States in their transit across the said territory from one sea to the other. The Government of New Granada guarantees to the Government of the United States that the right of way or transit across the Isthmus of Panama, upon any modes of communication that now exist or may be hereafter constructed, shall be open and free to the Government and citizens of the United States, and for the transportation of any articles of produce, manufactures, or merchandise of lawful commerce belonging to the citizens of the United States; that no other tolls or charges shall be levied or collected upon the citizens of the United States, or their said merchandise, thus passing over any road or canal that may be made by the Government of New Granada, or by authority of the same, than is, under like circumstances, levied upon and collected from the Granadian citizens; that any lawful produce, manufactures, or merchandise belonging to citizens of the United States thus passing from one sea to the other, in either direction, for the purpose of exportation to any other foreign country, shall not be liable to any import duties whatever, or, having paid such duties, they shall be entitled to

drawback upon their exportation; nor shall the citizens of the United States be liable to any duties, tolls, or charges of any kind to which native citizens are not subjected for thus passing the said isthmus; but, in order to secure to themselves the tranquil and constant enjoyment of these advantages, and as an especial compensation for said advantages, and for the favors they have acquired by the fourth, fifth, and sixth articles of this treaty, the United States guarantees positively to New Granada, by the present stipulation, the perfect neutrality of the before-mentioned isthmus, with the view that the free transit from the one to the other sea may not be interrupted or embarrassed to any future time while this treaty exists; and, in consequence, the United States also guarantees in the same manner the rights of sovereignty and property which New Granada has and possesses over the said territory, etc.

For a better understanding of the subject, and of the discussions relating thereto, it is necessary also to recall the provisions of the agreement between the United States and Great Britain, concluded April 19, 1850, and ratified the same year, known as the Clayton-Bulwer treaty. One purpose of this compact was to secure a surrender of all British pretensions to possession or authority in Central America. It was also intended to promote the construction of an interoceanic canal at Nicaragua, to protect it when constructed, and to secure its neutrality. The two governments declared that "neither the one nor the other will ever obtain or maintain for itself any exclusive control over the said ship-canal; agreeing that neither will ever erect or maintain any fortifications commanding the same or in the vicinity thereof, or occupy, or fortify, or colonize, or assume or exercise any dominion over Nicaragua, Costa Rica, the Mosquito Coast, or any part of Central America." It was further agreed, in the first article of this treaty, that neither the United States nor Great Britain would "take advantage of any intimacy, or use any alliance, connection, or influence that either may possess with any state or government through whose territory the said canal may pass, for the purpose of acquiring or holding, directly or indirectly, for the citizens or subjects of the one, any rights or advantages in regard to commerce or navigation through the said canal which shall not be offered on the same terms to the citizens or subjects of the other." Provisions follow defining the privileges which the two governments shall have in case of war; engaging to protect any parties that might undertake the construction of the canal under the authority of the local governments "from unjust detention, confiscation, seizure, or any violence whatsoever"; and agreeing to use influence to induce the governments having authority over the territory to be traversed "to facilitate the construction of the said canal by every means in their power," and to secure the establishment of a free port at each end of the said canal. The governments further agreed to protect the canal when completed, and to guarantee its neutrality, to the end "that the said canal may for ever be open and free, and the capital invested therein secure."

This protection might be withdrawn on six months' notice, in case the persons operating the canal made unfair discriminations against either party to the agreement, or imposed oppressive exactions or unreasonable tolls. The contracting parties further engaged "to invite every state with which both or either have friendly intercourse, to enter into stipulations with them similar to those which they have entered into with each other, to the end that all other states may share in the honor and advantage of having contributed to a work of such general interest and importance as the canal herein contemplated." They agreed, also, to enter into the necessary stipulations with Central American states for the promotion and safety of the enterprise, and promised to give their support and encouragement to such persons or company as should first offer to carry it out under certain specified conditions. All this related to a canal by way of Nicaragua; but in the eighth article of the treaty the two governments entered into the following stipulation:

The Governments of the United States and Great Britain, having not only desired, in entering into this convention, to accomplish a particular object, but also to establish a general principle, they hereby agree to extend their protection by treaty stipulations to any other practicable communications, whether by canal or railway, across the isthmus which connects North and South America, and especially to the interoceanic communications, should the same prove to be practicable, whether by canal or railway, which are now proposed to be established by the way of Tehuantepec or Panama. In granting, however, their joint protection to any such canals or railways as are by this article specified, it is always understood by the United States and Great Britain that the parties constructing or owning the same shall impose no other charges or conditions of traffic thereupon than the aforesaid governments shall approve of as just and equitable; and that the same canals or railways, being open to the citizens and subjects of the United States and Great Britain on equal terms, shall also be open on like terms to the citizens and subjects of every other state which is willing to grant thereto such protection as the United States and Great Britain engage to afford.

The attitude of the United States Government toward the Isthmus canal, in view of the provisions of these treaties and the presumed interests of the nation, has been the subject of much serious consideration during the year. President Hayes, in his last annual message, had reiterated the opinion that "it is the right and duty of the United States to assert and maintain such supervision and authority over any interoceanic canal across the isthmus that connects North and South America as will protect our national interest." In December, 1880, the following resolution was offered in the House of Representatives by Mr. Crapo, of Massachusetts, and referred to the Committee on Foreign Affairs:

Resolved, That the construction of an interoceanic canal connecting the waters of the Atlantic and Pacific Oceans by means of foreign capital under the auspices of or through a charter from any European government, is hostile to the established policy of the United States, is in violation of the spirit and

declaration of the Monroe doctrine, and can not be sanctioned or assented to by this Government; that the United States will assert and maintain such control and supervision over any interoceanic canal as may be necessary to protect its national interests and means of defense, unity, and safety, and to advance the prosperity and augment the commerce of the Atlantic and Pacific States of the Union.

The committee gave the subject prolonged consideration, listening to arguments from various quarters, and, toward the end of the session, made a report, in which they reviewed the "Monroe doctrine" and its purpose and application, closing as follows:

Your committee, therefore, as an affirmation of the Monroe doctrine, believe that Americans must rule America, and that as a notice to all the world that the United States, cherishing a friendly spirit to all nations, will adhere to strict neutrality in all transatlantic affairs, and expect a like non-interference in all American affairs, whether on the northern or southern or western hemispheres, we recommend the adoption of the following resolutions:

That the establishment of any form of protectorate by any one of the powers of Europe over any of the independent states of this continent, or the introduction from any quarter of a scheme or policy which would carry with it a right to any European power to interfere with their concerns or to control in any other manner their destiny, or the transfer to any such power by conquest, cession, or acquisition, or in any other way, of those states or any portion thereof, is a measure to which the Government is opposed, and which, should the attempt be made, it will regard and treat as dangerous to our peace, prosperity, and safety.

That the construction of any public works connecting the waters of the Atlantic and Pacific by any European government or power, whether the same be constructed at Panama or elsewhere, would be in violation of the spirit and letter of the Monroe doctrine, and could not be sanctioned by the Government of the United States.

That should a canal be constructed across the Isthmus of Panama, or elsewhere, this Government will insist that it shall not be under the control of any European government or power; that it shall be free to the commerce of the world, on equal terms, and that no discrimination shall ever be made against the United States in peace or war.

That the President be requested to take the steps necessary and proper for the abrogation of any existing treaties whose terms are in conflict with this declaration of principles.

The session came to a close without the adoption of this report, or any discussion of the resolution.

Before the close of President Hayes's Administration, negotiations were opened by the Secretary of State with Santo Domingo Vila, a commissioner of the Colombian Government, for the adoption of a protocol to the treaty of 1846, with a view to securing the exercise of an exclusive guarantee of the neutrality of the canal by the United States. This instrument, which was reputed to be the work of Mr. Deichman, the American Minister to Colombia, and supposed to have the approval of the government to which he was accredited, provided that the United States might establish forts, arsenals, and naval stations at the Isthmus of Panama, the sites to be agreed upon by the two governments. No force was to be kept there in time of peace, except for the

purpose of maintaining these forts and stations in order. It was agreed that United States ships of war and convoys should pass the canal in time of peace without payment of toll. In case the neutrality of the canal should be threatened, the United States would be at liberty to take possession of it by means of ships of war and troops, and the Government of Colombia would co-operate in such military and naval occupation. Ships of war and military expeditions of other nations should have no right to pass in time of peace, but the United States of America and the United States of Colombia might permit the innocent use of the route for such purposes. Colombia agreed to enter into no negotiations concerning the canal, and to make no alteration of the rules and regulations governing it, without the accord of the United States. This protocol was very generally denounced in Colombia, and failed to receive the approval of the Senate of that nation.

The general subject of the relation of the Government to the canal enterprise appears to have received the early consideration of the new Administration. On the 24th of June Mr. Blaine, the Secretary of State, addressed a circular letter of instructions to the American Ministers at the principal courts of Europe, in which he set out with the statement that it had "fallen under the observation of the President, through the current statements of the European press and other usual channels of communication, that the great powers of Europe may possibly be considering the subject of jointly guaranteeing the neutrality of the interoceanic canal now projected across the Isthmus of Panama." The United States, he said, recognized the necessity of a proper guarantee, but it had been abundantly provided for in the treaty with New Granada, concluded in 1846. He maintained that the United States had assumed the obligations and responsibilities of this guarantee, and was prepared to carry it out, and that nothing more was needed.

The copy of the letter, addressed to Mr. Lowell at London, directed him to bring the treaty of 1846 to the attention of Lord Granville, and to "intimate to him that any movement in the sense of supplementing the guarantee contained therein would necessarily be regarded by this Government as an uncalled-for intrusion into a field where the local and general interests of the United States of America must be considered before those of any other power, save those of the United States of Colombia alone, which has already derived, and will continue to derive, such eminent advantages from the guarantee of this Government." In re-enforcing this position, Mr. Blaine dwelt upon the policy of the United States in refraining from all complication with the affairs of Europe, and declared that European nations were equally bound not to interfere with affairs on the American Continent. The United States claimed no exclusive privileges and no

discrimination in its favor in the commercial use of the canal, but would "insist upon her right to take all needful precautions against the possibility of the isthmus transit being in any event used offensively against her interests upon the land or upon the sea." The extent of her possessions and interests on the Pacific coast made the projected canal at Panama virtually a part of her coast-line, and "as truly a channel of communication between the Eastern and far Western States as our own transcontinental railways." Reverting to the guarantee contained in the treaty of 1846, the Secretary said: "Any attempt to supersede that guarantee by an agreement between European powers, which maintain vast armies and patrol the sea with immense fleets, and whose interests in the canal and its operation can never be so vital and supreme as ours, would partake of the nature of an alliance against the United States, and would be regarded by this Government as an indication of unfriendly feeling. It would be but an inadequate response to the good-will we bear them, and our cheerful and constant recognition of their own rights of domestic policy, as well as those resulting from proximity or springing from neighborly interests."

This communication was made public in the latter part of October, and excited some criticism in London. The "Times" made use of the following language:

No one will question the right of the United States to take precautions so that the canal shall not be used in any way hostile to them. So far as Mr. Blaine's letter is an argument for the neutrality of the canal, it is unanswerable; but we fail to see why there should be any repugnance to allow England or France to join in a guarantee, and why it should be contended that an efficaciously perfect neutrality was provided by the treaty with Colombia. Mr. Blaine's assumption that the American possessions on the Pacific coast would supply the larger part of the traffic which would seek advantage of the canal, is very questionable. Indeed, it scarcely admits of doubt that the great bulk of the vessels which for some years to come would pass through the canal would be English. At all events, the dues paid by the American mercantile marine, in its present unhealthy state, are not likely to form at an early date a considerable part of the shareholders' receipts. Great though the interests of America are in this matter, and necessary though it is for her that there should be free communication between her Atlantic and Pacific States, this does not efface the fact that England also is at once an Atlantic and Pacific power, and that she is bound to have regard for the welfare of her subjects in British Columbia, and to think of securing free access to her Australian colonies. The neutralizing of the canal would be for the benefit of all the states in the world, and we fail to gather from this communication any solid objection to allowing European powers to join in a work universally desirable. Every additional guarantor would strengthen the guarantee. Every new party to the treaty would be a fresh security that the canal would not be blockaded or used as a basis for hostile operations in time of war; and it seems a little inconsistent in one and the same breath to argue for a guarantee, and to insist that the bill shall not be backed by more than two names. Were England to concede formally that she had no *locus standi* in regard to such a guarantee, it would be difficult for her to reply to any American statesman who might choose to say hereafter: "The governments of the two re-

publics are alone parties to the treaty. What they have made they can tear up. The neutrality of the canal is for the time suspended." It seems, to say the least, to be an unhappy use of language to describe the sincere co-operation of the European governments in a common object as of the nature of an alliance against the United States. Any statement hereafter made by Mr. Lowell, of the views of his government in regard to the matter, which has almost ceased to be purely a matter of abstract politics, will command attention, but he must expect to find Englishmen quite unprepared to see any great difference between the position of Nicaragua and that of Panama; and at a loss to conceive what injury American interests could suffer from a general compact to secure the neutrality of a pathway which, in the interests of the whole world, should be placed outside of the region of warfare.

The "Daily News" said:

There probably never was a time when all the European powers were more thoroughly well disposed toward America than now. Mr. Blaine's arguments, therefore, are certain of a patient and, indeed, of a friendly hearing; but as a piece of logic the circular can hardly be considered by his best friends to be very powerful. By the Clayton-Bulwer treaty, America recognized the propriety of what she now regards as an intrusion. All great commercial countries will be deeply interested in the Panama Canal. The maritime powers will be under strong temptations in time of war to violate its neutrality. Their signatures to the guarantee will consequently be absolutely necessary, unless the United States are prepared to take upon themselves an enormous responsibility. Perhaps the most unfortunate suggestion of the circular is that the proposed guarantee would be in the nature of an alliance against America. It is impossible to see how a purely peaceful convention can be an alliance against anybody unless it involves exclusion. It is unnecessary to say that nobody proposes to exclude the United States from the benefit of the proposed neutrality. It is to be hoped that the matter will take a different turn from that suggested in the circular, which must surely have been issued under some misconception.

The "Pall Mall Gazette" contained the following remarks:

It can not be doubted that Mr. Blaine's circular was not actuated by any historical policy, but by the fear that an international guarantee might interfere with the arrangement by which the United States and Colombia reserved to themselves the right to pass their men-of-war and troops through the canal at all times, while providing that the canal should be closed to nations at war with either contracting party. The expedient of America for securing her interest in the Panama Canal by negotiating a treaty by surprise with a small, weak state is not much happier than the British purchase of Suez Canal shares, which aimed at a similar object. European powers might legitimately hesitate to commit the virtual command of one of the very greatest commercial routes in the world to one very strong power and one very weak one. The Clayton-Bulwer treaty may be usefully employed to call to recollection America's former and wiser frame of mind.

Under date of November 19th, Secretary Blaine addressed a communication to Minister Lowell, in which he proposed to the British Government certain modifications of the agreement of 1850, known as the Clayton-Bulwer treaty. He argued that that convention was made "under exceptional and extraordinary conditions which have long since ceased to exist—conditions which at best were temporary in their nature, and which can never be

reproduced." The interests of her Majesty's Government, he urged, were insignificant, while those of the United States were paramount, and had been greatly enhanced since the negotiation of the treaty, on account of the development of its possessions on the Pacific coast. Moreover, the effect of the agreement was to give Great Britain a virtual power of control. "The insular position of the home Government," he said, "with its extended colonial possessions, requires the British Empire to maintain a vast naval establishment which, in our continental solidity, we do not need, and in time of peace shall never create. If the United States binds itself not to fortify on land, it concedes that Great Britain, in the possible case of a struggle for the control of the canal, shall at the outset have an advantage which would prove decisive, and which could not be reversed, except by the expenditure of treasure and force. The presumptive intention of the treaty was to place the two powers on a plane of perfect equality with respect to the canal; but in practice, as I have indicated, this would prove utterly delusive, and would, instead, surrender it, if not in form, yet in effect, to the control of Great Britain. The treaty binds the United States not to use its military force in any precautionary measure, while it leaves the naval power of Great Britain perfectly free and unrestrained, ready at any moment of need to seize both ends of the canal and render its military occupation on land a matter entirely within the discretion of her Majesty's Government. The military power of the United States, as shown by the recent civil war, is without limit, and, in any conflict on the American Continent, altogether irresistible. The Clayton-Bulwer treaty commands this Government not to use a single regiment of troops to protect its interests in connection with the interoceanic canal, but to surrender the transit to the guardianship and control of the British navy. If no American soldier is to be quartered on the Isthmus to protect the rights of his country in the interoceanic canal, surely—by the fair logic of neutrality—no war-vessel of Great Britain should be permitted to appear in the waters that control either entrance to the canal." He proceeded to disclaim, in behalf of the United States Government, any disposition to adopt an aggressive policy, but maintained that its interests required that it should control the shortest and most convenient route of communication by water between the two shores of its territorial domain, citing the policy of Great Britain in regard to the route to India by way of the Mediterranean and Red Seas through the Suez Canal, as furnishing a parallel to that proposed by the United States.

Great Britain (he continued) appreciates the advantage, and perhaps the necessity, of maintaining, at the cost of large military and naval establishments, the interior and nearest route to India, while any nation with hostile intent is compelled to take the longer route and travel many thousand additional

miles through dangerous seas. It is hardly conceivable that the same great power, which considers herself justified in taking these precautions for the safety of a remote colony on another continent, should object to the United States adopting similar but far less demonstrative measures for the protection of the distant shores of her own domain, for the drawing together of the extremes of the Union in still closer bonds of interest and sympathy, and for holding, in the quiet determination of an honorable self-defense, the absolute control of the great water-way which shall unite the two oceans, and which the United States will always insist upon treating as part of her coast-line. If a hostile movement should at any time be made against the Pacific coast, threatening danger to its people and destruction to its property, the Government of the United States would feel that it had been unfaithful to its duty and neglectful toward its own citizens, if it permitted itself to be bound by a treaty which gave the same right through the canal to a war-ship, bent on an errand of destruction, that is reserved to its own navy, sailing for the defense of our coast and the protection of the lives of our people. And as England insists, by the might of her power, that her enemies in war shall strike her Indian possessions only by doubling the Cape of Good Hope, so the Government of the United States will equally insist that the interior, more speedy, and safer route of the canal shall be reserved for ourselves, while our enemies, if we shall ever be so unfortunate as to have any, shall be remanded to the voyage around Cape Horn.

A consideration of controlling influence in this question is the well-settled conviction on the part of this Government that only by the United States exercising supervision can the Isthmus canal be definitely, and at all times, secured against the interference and obstruction incident to war. A mere agreement of neutrality, on paper, between the great powers of Europe might prove ineffectual to preserve the canal in time of hostilities. The first sound of a cannon in a general European war would, in all probability, annul the treaty of neutrality, and the strategic position of the canal, commanding both oceans, might be held by the first naval power that could seize it. If this should be done, the United States would suffer such grave inconvenience and loss in her domestic commerce as would enforce the duty of a defensive and protective war on her part, for the mere purpose of gaining that control which, in advance, she insists is due to her position and demanded by her necessities. I am not arguing or assuming that a general war, or any war at all, is imminent in Europe, but it must not be forgotten that within the past twenty-five years all the great powers of Europe have been engaged in war—most of them more than once. In only a single instance in the past hundred years has the United States exchanged a hostile shot with any European power. It is in the highest degree improbable that for a hundred years to come even that experience will be repeated. It consequently becomes evident that the one conclusive mode of preserving any Isthmus canal from the possible distraction and destruction of war, is to place it under the control of that government least likely to be engaged in war, and able, in any and every event, to enforce the guardianship which she will assume. For self-protection to her own interests, therefore, the United States, in the first instance, asserts her right to control the Isthmus transit; and, secondly, she offers by such control that absolute neutralization of the canal, as respects European powers, which can in no other way be certainly attained and lastingly assured.

Another reason given for the modification of the treaty was, that since 1850 other European nations had extended their commercial connections with South America, and an agreement between the United States and Great

Britain alone could no longer serve the purpose originally contemplated. It was now sought "not only to free the United States from unequal and inequitable obligations to Great Britain, but also to empower this Government to treat with all other nations seeking a foothold on the Isthmus, on the same basis of impartial justice and independence." The modifications proposed were as follows:

1. Every part of the treaty which forbids the United States fortifying the canal and holding the political control of it, in conjunction with the country in which it is situated, to be canceled.

2. Every part of the treaty in which Great Britain and the United States agree to make no acquisition of territory in Central America to remain in full force. As an original proposition, this Government would not admit that Great Britain and the United States should be put on the same basis, even negatively, with respect to territorial acquisitions on the American Continent, and would be unwilling to establish such a precedent without full explanation. But the treaty contains that provision with respect to Central America, and if the United States should seek its annulment it might give rise to erroneous and mischievous apprehensions among a people with which this Government desires to be on the most friendly terms. The United States has taken special occasion to assure the Spanish-American republics to the south of us that we do not intend and do not desire to cross their borders or in any way disturb their territorial integrity, and we shall not willingly incur the risk of a misunderstanding by annulling the clauses in the Clayton-Bulwer treaty which forbid such a step with Central America. The acquisition of military and naval stations necessary for the protection of the canal and voluntarily ceded to the United States by the Central American States is not to be regarded as a violation of the provision contained in the foregoing.

3. The United States will not object to maintaining the clause looking to the establishment of a free port at each end of whatever canal may be constructed, if England desires it to be retained.

4. The clause in which the two governments agreed to make treaty stipulations for a joint protectorate of whatever railway or canal might be constructed at Tehuantepec or Panama has never been perfected. No treaty stipulations for the proposed end have been suggested by either party, although citizens of the United States long since constructed a railway at Panama, and are now engaged in the same work at Tehuantepec. It is a fair presumption, in the judgment of the President, that this provision should be regarded as obsolete by the non-action and common consent of the two governments.

5. The clause defining the distance from either end of the canal where, in time of war, captures might be made by either belligerent on the high seas, was left incomplete and the distance was never determined. In the judgment of the President, speaking in the interest of peaceful commerce, this distance should be made as liberal as possible, and might with advantage, as a question relating to the high seas and common to all nations, be a matter of stipulation between the great powers of the world.

In conclusion, the Secretary said:

In assuming, as a necessity, the political control of whatever canal or canals may be constructed across the Isthmus, the United States will act in entire harmony with the governments within whose territory the canals shall be located. Between the United States and the other American republics there can be no hostility, no jealousy, no rivalry, no distrust. This Government entertains no design in connection with this project for its own advantage, which is not also for the equal or greater advantage of the country to be directly and immediately affected. Nor does the

United States seek any exclusive or narrow commercial advantage. It frankly agrees, and will by public proclamation declare, at the proper time, in conjunction with the republic on whose soil the canal may be located, that the same rights and privileges, the same tolls and obligations for the use of the canal, shall apply with absolute impartiality to the merchant marine of every nation on the globe; and equally, in time of peace, the harmless use of the canal shall be freely granted to the war-vessels of other nations. In time of war, aside from the defensive use to be made of it by the country in which it is constructed and by the United States, the canal shall be impartially closed against the war-vessels of all belligerents. It is the desire and determination of the United States that the canal shall be used only for the development and increase of peaceful commerce among all the nations, and shall not be considered a strategic point in warfare, which may tempt the aggressions of belligerents, or be seized under the compulsions of military necessity by any of the great powers that may have contests in which the United States has no stake, and will take no part. If it be asked why the United States objects to the assent of European governments to the terms of the neutrality for the operation of the canal, my answer is that the right to assent implies the right to dissent, and thus the whole question would be thrown open for contention as an international issue. It is the fixed purpose of the United States to confine it strictly and solely as an American question to be dealt with and decided by the American governments.

The communication of Mr. Blaine to Mr. Lowell, in November, had presumably the support of President Arthur, who, in his first message to Congress, on December 6th, said:

The questions growing out of the proposed inter-oceanic water-way across the Isthmus of Panama are of grave national importance. This Government has not been unmindful of the solemn obligations imposed upon it by its compact of 1846 with Colombia, as the independent and sovereign mistress of the territory crossed by the canal, and has sought to render them effective by fresh engagements with the Colombian Republic, looking to their practical execution. The negotiations to this end, after they had reached what appeared to be a mutually satisfactory solution here, were met in Colombia by a disavowal of the powers which its envoy had assumed, and by a proposal for renewed negotiation on a modified basis. Meanwhile this Government learned that Colombia had proposed to the European powers to join in a guarantee of the neutrality of the proposed Panama Canal, a guarantee which would be in direct contravention of our obligation as the sole guarantor of the integrity of Colombian territory, and of the neutrality of the canal itself. My lamented predecessor felt it his duty to place before the European powers the reasons which make the prior guarantee of the United States indispensable, and for which the interjection of any foreign guarantee might be regarded as a superfluous and unfriendly act. Foreseeing the probable reliance of the British Government on the provisions of the Clayton-Bulwer treaty of 1850, as affording room for a share in the guarantees which the United States covenanted with Colombia four years before, I have not hesitated to supplement the action of my predecessor, by proposing to her Majesty's Government the modification of that instrument, and the abrogation of such clauses thereof as do not comport with the obligations of the United States toward Colombia, or with the vital needs of the two friendly parties to the compact.

Under date of January 7, 1882, Lord Granville addressed a communication to Mr. West, the British Minister at Washington, in reply to Mr. Blaine's proposition for a modification of the Clayton-Bulwer treaty. He maintained that Great Britain had pursued no such policy

in regard to the Suez Canal as was attributed to it by the ex-Secretary of State, and as was proposed on the part of the United States in regard to the Nicaragua route. "The Navy Department of the United States," he said, must be well aware that her Majesty's Government have never sought to bar or even to restrict the use of the canal by the naval forces of other countries, and that during the recent war between Russia and Turkey, when the canal itself formed a portion of the territory of one of the belligerents, when the seat of conflict was close at hand, and when British interests might in many other respects have been nearly involved, they contented themselves with obtaining an assurance that the sphere of operations should not be extended to the canal." He combated the idea that the development of American interests on the Pacific coast had not been anticipated at the time the treaty was made. He continued:

While recognizing to the fullest degree the extent to which the United States must feel interested in any canal which may be constructed across the Isthmus of Panama, her Majesty's Government would be wanting in regard to their duty if they failed to point out that Great Britain has large colonial possessions, no less than great commercial interests, which render any means of unobstructed and rapid access from the Atlantic to the North and South Pacific Oceans a matter for her also of the greatest importance. The development of these possessions and interests has steadily continued, possibly with less rapidity, but on a scale which has some relation even to that of the Pacific States.

Her Majesty's Government do not wish to ignore the share which other nations have acquired in the commerce of Central and South America, nor to exclude from consideration the interest of those countries in any canal which may be made across the Isthmus. They are of opinion that such a canal, between two great oceans and between all Europe and Eastern Asia, is a work which concerns not merely the United States or the American Continent, but the whole civilized world. This is a view which finds expression in the eighth article of the treaty of 1850. Her Majesty's Government are as anxious as that of the United States that while all nations should enjoy their proper share in the benefits to be expected from the undertaking, no single country should acquire a predominating influence or control over such a means of communication, and they will not oppose or decline any discussion for the purpose of securing on a general international basis its universal and unrestricted use. With all deference to the considerations which have prompted the proposals made in Mr. Blaine's dispatch, her Majesty's Government can not believe that they would promote the object or be beneficial in themselves. The relations of the United States with the European powers are, fortunately, of a nature to give rise to no feelings of suspicion or alarm. The general tendency of their foreign policy gives good promise that they will so continue. But if provision is to be made on one side for a different state of affairs, it must be expected that the course thus indicated will find its natural and logical counterpart on the other. Her Majesty's Government can conceive no more melancholy spectacle than a competition among the nations holding West Indian possessions and others on the Central and South American Continent in the construction of fortifications to obtain the command over the canal and its approaches in the event of occasion arising for such a measure. They can not believe that it would be agreeable or convenient to any South American state through which the canal may pass to

find itself called upon to admit a foreign power to construct and garrison on its territory a succession of fortresses of increasing magnitude, designed to oppose such attempts, even though that foreign power be a neighboring one, and situated upon the same continent; and when claim to do this is accompanied by a declaration that the United States will always insist on treating the water-way which shall unite two oceans "as part of her coast-line," it is difficult to imagine that the states to which the territory lying between that water-way and the United States belongs can practically retain as independent a position as that which they now enjoy. These are the consequences that, in the conviction of her Majesty's Government, would almost certainly follow from a claim on the part of the United States to assume the supreme authority over the canal and all responsibility for its control. Her Majesty's Government hold, on the contrary, that the principles which guided the negotiations of the convention of 1850 were intrinsically sound, and continue to be applicable to the present state of affairs. Their wish would be that those principles should receive the practical development which was contemplated at the time, and that effect should be given to that portion of the treaty which provides that the contracting parties shall invite all other states with whom they have friendly intercourse to enter into similar stipulations with them. A certain amount of progress was made in this direction by the conclusion of the conventions with Honduras and Nicaragua by Great Britain in 1856 and 1860, and by the United States in 1864 and 1867, and by Nicaragua with France in 1859, with the object of upholding the general principles inserted in the treaty. During the period when there were still matters to regulate with respect to Greytown, the Bay Islands, the frontier of British Honduras, and the protection of the Mosquito Indians, and when the construction of a canal still seemed a contingency more or less doubtful and remote, it was strange that the engagement to address the powers should have been allowed to remain dormant, but the project of the canal has now assumed sufficient shape to render such an application reasonable and pertinent.

Her Majesty's Government believe that the extension of an invitation to all maritime states to participate in an agreement based on the stipulation of the convention of 1850 would obviate any objection that may possibly be raised against it as not being adequate in its present condition for the purpose for which it was designed. This course formed the basis of Mr. Fish's proposal to Dr. Cardenas, the Nicaraguan Minister in 1877, and her Majesty's Government would gladly see the United States again take the initiative in an invitation to the powers, and will be prepared either to join in it or to support and indorse it in the way that may be found most fitting and convenient, provided it does not conflict in any way with the Clayton-Bulwer treaty.

In a subsequent communication, January 14th, Lord Granville replied at length to Mr. Blaine's contention in regard to the disputes and disagreements to which the treaty of 1850 had given rise in past years. He showed that these related not at all to the provisions in regard to interoceanic communication, objected to by the ex-Secretary, which both parties had been anxious to retain. It was distinctly declared during the controversy that the United States demanded "no exclusive privileges in these passages [across the Isthmus], but will exert their influence to secure their free and unrestricted benefits, both in peace and war, to the commerce of the world." The dispute, on the other hand, had grown out of Great Britain's territorial interests in Central

America, which she was indisposed to abandon, and which the United States claimed had been given up by the treaty. All causes of disagreement were subsequently removed by treaties which Great Britain had made with Guatemala for the settlement of the question of the Balize boundary, with Honduras surrendering the Bay Islands and the Mosquito protectorate, and with Nicaragua in relation to the Mosquito Indians and British subjects. The settlement of the difficulty had been accepted by the United States as "entirely satisfactory" so long ago as 1860, as would have appeared from the correspondence and records quoted by Mr. Blaine, if he had pursued the subject a little further. In concluding and summing up his argument, Lord Granville said:

I have been forced to give the above extracts at considerable length, and I refrain from adding other passages which would tend to illustrate and confirm them. A perusal of them, however, will, I think, suffice to show: 1. That the differences which arose between the two governments in regard to the treaty, and which occasioned at one time considerable irritation, but which have long since been happily disposed of, did not relate to the general principles to be observed in regard to the means of interoceanic communication across the Isthmus, but had their origin in a stipulation which Mr. Blaine still proposes in great part to maintain. He wishes every part of the treaty in which Great Britain and the United States agree to make no acquisition of territory in Central America to remain in full force, while he desires to cancel those portions of the treaty which forbid the United States fortifying the canal and holding the political control of it in conjunction with the country in which it is located. 2. That the declarations of the United States Government during the controversy were distinctly at variance with any such proposal as that just stated. They disclaimed any desire to obtain an exclusive or preferential control over the canal. Their sole contention was that Great Britain was bound by the treaty to abandon those positions on the mainland or adjacent islands which in their opinion were calculated to give her the means of such a control. Nor did they in any way seek to limit the application of the principles laid down in the treaty so as to exclude Colombia, or Mexican territory, as Mr. Blaine now suggests, nor urge that such application would be inconsistent with the convention between the United States and New Granada of 1846. On the contrary, they were ready to give those principles their full extension. 3. That at a time when the British Government had been induced by the long continuance of the controversy to contemplate the abrogation of the treaty, they were only willing to do so on the condition of reverting to the *status quo ante* its conclusion in 1850, a solution which was at that time possible—though, as the United States Government justly pointed out, it would have been fraught with great danger to the good relations between the two countries—but which is now rendered impossible by the subsequent events. 4. That a better and more conciliatory conclusion, which for twenty years has remained undisputed, was effected by the independent and voluntary action of Great Britain. The points in dispute were practically conceded by this country, and the controversy terminated in a manner which was declared by President Buchanan to be amicable and honorable, resulting in a final settlement entirely satisfactory to the Government of the United States.

Frequent reference having been made to the "Monroe doctrine" in the discussion of this subject, it will be useful to recall the purpose and character of the announcement in which

that "doctrine" had its origin. In 1822 the Government of the United States recognized the independence of the revolted Spanish colonies in America. Among the designs imputed to the concert of European powers known as the "Holy Alliance" was the reclamation of those colonies. The British Government was enlisted against such a design, partly on account of the extension of its commercial interests on the Western Continent through the removal of the old Spanish restrictions on colonial trade, and partly from a fear of French encroachments on its own possessions in case the work of reclamation was once begun. Accordingly, in the summer of 1823, Mr. Canning, the British Prime Minister, proposed to Mr. Rush, the American Minister in London, that the United States join with England in the following declarations:

1. That we conceive the recovery of the colonies of Spain to be hopeless.
2. We conceive the question of the recognition of them as independent states to be one of time and circumstances.
3. We are, however, by no means disposed to throw any impediment in the way of an arrangement between them and the mother-country by amicable negotiation.
4. We aim not at the possession of any portion of them ourselves.
5. We could not see any portion of them transferred to any other power with indifference.

Mr. Rush, in reply, accepted these declarations in substance, excepting the second, as the United States had already recognized the independence of the former Spanish colonies, but chose his own form of expression for them, and disclaimed any authority from his government as to the manner of making an avowal of the principles involved. The communications between Mr. Canning and Mr. Rush, which were duly transmitted to the Government at Washington, resulted in no formal action, and are important chiefly as indicating to some degree the inception of the doctrine afterward announced by President Monroe, and showing the moral support looked for from Great Britain.

The allied monarchs, in December, 1822, had announced their determination "to repel the mania of rebellion, in whatever place or under whatever form it might show itself." In July, 1823, Mr. Adams, Secretary of State, in reply to a question from the Russian Minister at Washington, declared that "we should contest the right of Russia to any territorial establishments on this continent; and that we should assume distinctly the principle that the American Continents are no longer subjects to any new European colonial establishments." The subsequent declaration of the President, in his annual message, on the subject of European colonization, which is regarded as one branch of the "Monroe doctrine," was as follows: "The American Continents, by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects of future colonization by any European power."

Prior to November 25, 1823, Mr. Adams had

prepared a draft of a reply to various communications from the Russian Government, as well as the proposals of Mr. Rush, which was substantially the basis of the declarations afterward made by the President. Mr. Monroe had submitted the proposals of Mr. Canning and the correspondence relating thereto to Mr. Jefferson, then in retirement at Monticello, and the aged statesman had responded with the following sentiments on the questions involved: "The question presented by the letters you have sent me is the most momentous which has ever been offered to my contemplation since that of independence. . . . Our first and fundamental maxim should be, never to entangle ourselves in the broils of Europe. Our second, never to suffer Europe to intermeddle with cis-Atlantic affairs." Mr. Jefferson favored accepting Mr. Canning's proposal, as did Mr. Madison, who was also consulted. The final enunciation of the main branch of the "Monroe doctrine" was made in the following language, in the President's message of December 2, 1823: "We owe it to candor, and to the amicable relations existing between the United States and the allied powers, to declare that we should consider any attempt on their part to extend their system to any portion of this hemisphere as dangerous to our peace and safety. With the existing colonies or dependencies of any European power we have not interfered, and shall not interfere, but with the governments who have declared their independence and maintained it, and whose independence we have, on great consideration and on just principles, acknowledged, we could not view any interposition for the purpose of oppressing them, or controlling in any other manner their destiny, by any European power, in any other light than as the manifestation of an unfriendly disposition toward the United States. . . . It is impossible that the allied powers should extend their political system to any portion of either continent without endangering our peace and happiness. . . . It is equally impossible that we should behold such an interposition in any form with indifference."

This declaration fully served the purpose intended, and put an end to all designs, if any existed, for restoring the authority of Spain over its former colonies. It also served as the basis of a traditional American policy, hostile to the intrusion of any European power on the Western Continent, for the purpose of acquiring new possessions, setting up or extending authority, or in any way affecting the sovereignty of independent states. Whether it has any application to a purely commercial enterprise, under the sanction of the government within whose territory it is prosecuted, or whether it is inconsistent with an international guarantee of the neutrality of a commercial water-way, in which European nations should take part for the security of their commercial interests, are questions about which there is some controversy.

PARAGUAY (REPÚBLICA DEL PARAGUAY). In our volume for 1874 has been given a statement of the area, territorial division, population, etc., of this republic. It may here be added that the census of 1876 showed a population of 293,844, or an increase of about 33 per cent since the date of the previous census, at which time the number of inhabitants was computed at 221,079. It may be curious to remark that of this last number 106,254 were females! The losses in the late disastrous war with the Argentine Republic and Brazil were reckoned at half the total number of inhabitants—170,000 males, by battle and disease (chiefly the latter), and 50,000 women and children by famine and exposure in the forests. The average proportion of male to female births is very nearly as eight to nine. The figures above given, for 1876, include 6,000 foreigners, as follows: 1,500 Brazilians, 2,500 Italians, 600 Portuguese, 400 Argentines, 250 Spaniards, 150 Austrians, 120 French, 90 Germans, 80 English, 80 Uruguayans, and 230 of other nationalities. The capital, Asuncion, had in 1876 a population of 19,463.

The President (provisional) of the Republic is General B. Caballero; and the Cabinet was made up of the following ministers: Foreign Affairs, Señor J. S. Decoud; Interior, Colonel Duarte (*ad interim*); Finance, Señor J. A. Jara; Justice and Public Worship, Señor J. A. Bazarás; War, Colonel Duarte.

Military service is obligatory for all male citizens between the ages of eighteen and fifty-five; but the standing army has, from motives of economy, been reduced to 500 men—150 horse and 350 foot.

The national revenue, which is mainly derived from the customs department, figures in the budget for 1877 at \$295,570, and the expenditure at \$228,650, leaving a surplus of \$66,920.

All export duties were abolished in 1877.

The following table shows the amount and branches of the expenditure, as estimated in the budget for the year 1879:

EXPENDITURES.	
Congress.....	\$27,470
Executive.....	34,020
Ministry of Foreign Affairs.....	9,720
“ of the Interior.....	41,870
“ of Finance.....	36,660
“ of Justice, etc.....	72,948
“ of War and Marine.....	47,348
Total.....	\$270,081

It should here be observed that in the foregoing total of expenditure is not included the interest on the national debt, nor the cost of maintenance of the army.

The home debt of Paraguay has been reduced to an insignificant sum, partly by the proceeds of sales of Government lands and partly by a specific additional import of 20 per cent. But the old British debt, consisting of two loans contracted in 1871 and 1872 in London—the first of the nominal amount of £1,000,000, and the second of £2,000,000, each

bearing 8 per cent interest—is rapidly increasing, no payments having been made on either interest or sinking fund since 1874. Indeed, according to the report of the select Parliamentary Committee on Foreign Loans, “no part of the previous payments was provided by the Government of Paraguay, but the whole was derived from the proceeds of the loans themselves.” Issued at the price of 80, the loans above mentioned were hypothecated on the public lands of the republic, valued at £19,380,000. Besides these onerous obligations, Paraguay groans under the weight of an immense war indemnity of \$236,000,000, according to treaty stipulations consequent upon the war of 1865–’70. Of this last indebtedness, \$200,000,000 represent the amount due to Brazil, \$35,000,000 that to the Argentine Republic, and \$1,000,000 that to Uruguay.

The imports, of which about three fourths are from Great Britain and the remainder from Continental Europe (principally Germany), were of the total value of \$956,000 in 1879, and \$1,030,000 in 1880; the exports for the same years having been of the values of \$1,582,000 and \$1,163,000 respectively. The yield of the customs department in the former of these two years was \$216,000, and in the latter \$320,000. The chief articles imported were: cotton fabrics, \$200,000; wine, \$70,000; flour, \$31,000; rice, \$29,000; beer, \$18,600; sacking, \$17,000; woollen and silk fabrics, petroleum, glass and china ware, etc. The exports consisted mainly of *maté*, or Paraguay tea, 4,800,000 kilogrammes; tobacco, 1,100,000 kilogrammes; cigars, 12,608,958; oranges, 14,400,000; hides, 47,522; tanners’ bark, 34,930 kilogrammes; tapioca, 264,000 kilogrammes; essence of orange-leaves, cabinet-woods, rum, maize, leather, etc. The very favorable reports from two consignments of *maté* sent to Italy, encouraged the belief that a large market might be opened up there for that product.

The only railway is that from the capital to Paraguay, some forty-five miles; and the only telegraph, that connected with the line just mentioned. The yield of the post-office department in 1880 was \$1,872.

By dint of well-directed industry, under the auspices of a good government, Paraguay appears to be slowly but surely recovering from the prostration consequent upon her late war. The Congress had passed a bill to promote European immigration, and a vote of over \$30,000 had been made for that purpose. From March 16, 1880, to February 15, 1881, the sitting mixed Paraguayo-Argentine Commission had decided on one hundred and twenty-eight claims, of the total amount of \$433,959. It was expected to finish by the end of the year with the Paraguayo-Brazilian claims. The Paraguayan Government had delivered to that of Brazil \$8,950,383 in bonds, the interest accrued on which is \$916,234. A law had been passed authorizing the establishment of a bank,

with a capital of \$500,000. New colonies, sugar-factories, and other industries, were in contemplation, and some already started. But the best proof of the improved condition of things in Paraguay is the increased value of the Government promises to pay. Treasury-orders, which were as low as 8 per cent, have risen to over 25 since General Caballero entered office; and the hopes of the English bondholders are not altogether groundless. The exports are augmenting, and it has been asserted that in the course of a few years Paraguay "will regain its position among the states of the Plate."

PATTERSON, ROBERT, born in Cappagh, county of Tyrone, Ireland, January 12, 1792; died in Philadelphia, August 7, 1881. His father was actively engaged in organizing the Irish rebellion of 1798, and after that effort escaped to America, settling near old Middletown Presbyterian Church, in Delaware County, Pennsylvania. Here his son received such instruction as was obtainable at the ordinary schools of that day, effectively supplemented by judicious home-training. After leaving school, he assisted his father—whose robust frame and magnetic influence over men he had inherited—in the management of his farm, finding time to participate in all manner of athletic exercises, in many of which, horsemanship especially, he attained singular pre-eminence. Later on, he went to live in Philadelphia, where he entered the counting-house of Edward Thomson, the leading American merchant in the China trade. In the war of that period Robert Patterson was commissioned first-lieutenant of infantry, and afterward served on the personal staff of General Bloomfield. It is recorded of him that his skill and intrepidity saved a North Carolina vessel, lying in the Delaware River in 1814, which was in imminent danger from a British seventy-four, one of a fleet blockading Philadelphia. After the conclusion of peace and the disbandment of his regiment, Captain Patterson returned to the business he had originally chosen. In his early manhood he found time to exercise a great influence in local politics. He was one of "the five Colonel Pattersons" in the Pennsylvania Convention that nominated Andrew Jackson for the presidency, and engaged in that campaign with all the enthusiasm of his nature. His last appearance before the people as a candidate for civil office was in 1836, when he headed the Democratic electoral ticket, and became president of the electoral college which cast the vote of Pennsylvania for Martin Van Buren.

On the occasion of President Jackson's first official visit to Philadelphia, June, 1833, the city councils violated the custom of granting the use of Independence Hall to such citizens as might desire to pay their respects to him, and refused it. General Patterson entertained the President at his residence in the evening, after escorting him through the principal

streets of the city at the head of the largest body of citizen soldiery ever assembled there before the civil war. The municipal authorities, to manifest their disapprobation of Jackson, had arranged a counter-procession, entirely civic, with Black Hawk, just brought in prisoner from the Northwest, at its head. General Patterson halted his column long enough to let the carriage containing the mayor and Black Hawk pass, then, posting the First Troop to bar all further egress in that direction, sent a staff officer to say to Black Hawk that his "young men" would be glad to show him how many more, besides those he had already encountered in the West, he would have to fight if he made trouble again.

At the October election of 1838 in Pennsylvania, when the fever of party spirit threatened a popular outbreak, General Patterson obeyed the Governor's call for troops with his entire division, and by his firmness and prudence prevented a resort to arms. General Patterson's military services were efficacious on various occasions in quelling local disturbances, notably the "Red Row riots" in 1838, and the "Native American riots" in 1844.

When volunteers were called for in the spring of 1846, for the Mexican War, General Patterson was appointed major-general, and, reporting in person to General Taylor, was placed in command at Camargo. Of the 13,000 volunteers turned over to him, 4,500 were on the sick-list. When they were fit for service, he was directed to meet General Taylor at Victoria, with a view to a combined movement on Tampico. Patterson's march of two hundred and fifty miles, partly through a desert without water, was accomplished without loss. He was directed to move against Tampico, about two hundred and ten miles distant, and the town surrendered to him without resistance. From this point Patterson's division was transferred by water to General Scott's column, with which, at the siege of Vera Cruz, he rendered conspicuous services. He remained with the army until the conclusion of the peace, to which his prudent counsel and good offices largely conduced.

After the war General Patterson resumed his mercantile pursuits, and the command of the Pennsylvania militia.

The civil war found him the oldest major-general in continuous commission in the United States. He was selected in April to command the Pennsylvania troops, and General Scott placed him over the Department of Washington, which then included the States of Maryland, Delaware, New Jersey, and Pennsylvania, with headquarters at Philadelphia. On the day he received the order, he confided his large private business to others, concentrated his energies upon the effective organization of a volunteer army, and such other preparations as he deemed essential to ultimate success. Unlimited powers were conferred upon him, with authority to suspend the writ of *habeas cor-*

pus, and to declare martial law. His own division, filled up from the *élite* of Philadelphia, responded to his call with enthusiasm, and were followed so promptly by the flower of the Pennsylvanian youth that her quota of fourteen regiments was swollen to twenty-five, all accepted by him before the Administration had opportunity to reject the overplus.

One of his first demonstrations was to hold in check the turbulent spirits of the Eastern Shore of Maryland, and cement Delaware more firmly to the Union, by sending the superb light battery of Sherman to manœuvre near Easton, Maryland. Through the strenuous exertions of General Patterson, communication between Philadelphia and the capital was re-opened by means of a new route *via* Annapolis, after the insurgents had effectually cut it off. Access to Washington thus secured, General Patterson sent the old volunteer artillery regiment of Pennsylvania, commanded by his oldest son, Colonel Francis E. Patterson, to unite with Sherman's battery in re-opening the route through Baltimore. Having done this, and the Government declining to receive into service the men called from Pennsylvania, General Patterson took the field with the residue of the army he had gathered.

Mustered out of the service of the United States at the expiration of his term, he returned home to find popular prejudice arrayed against him on account of his position during the campaign on the upper waters of the Potomac, anterior to the first battle of Manassas. Unable to defend himself by revealing facts that might be prejudicial to the public service, General Patterson devoted himself to the extrication of his private affairs from the confusion into which they had fallen while he was engaged in military operations. At the end of four years, when all necessity for silence had passed away, he published his "Narrative of the Campaign in the Valley of the Shenandoah," which produced a marked effect on the public mind.

In the management of his mercantile business he showed remarkable capacity. Besides being an extensive real-estate owner, he was a prominent manufacturer of cotton goods, and maintained over four thousand employés in his cotton-mills. He was also largely interested in sugar-refineries at New Orleans, as well as in seven cotton-plantations in Georgia and Tennessee. His estate was variously estimated at from \$2,000,000 to \$3,000,000.

PEMBERTON, General JOHN C., born in Philadelphia, 1817; died at Penn Lyn, Pennsylvania, July 13, 1881. He graduated from West Point in 1837, and was promoted second-lieutenant of the Fourth Artillery, with which he served in the Florida War against the Seminole Indians. He was engaged in the action of Locha Hatchee in 1838. In 1840 he was ordered to the Northern frontier to aid in quelling the disturbances on the Canadian bor-

der at Detroit. A year later found him at Forts Mackinac and Brody, Michigan, at Buffalo, and in 1842 in garrison at Fortress Monroe, Virginia. On the 19th of March, 1842, he was made first-lieutenant in the Fourth Artillery, and at the breaking out of the Mexican War he was aide-de-camp to General Worth, participating in the battles of Palo Alto, Resaca de la Palma, and Monterey, as also in the siege of Vera Cruz. For his gallantry at Monterey, in 1846, he was brevetted captain, and at Molino del Rey, major. He was present at the storming of Chapultepec; and at the assault and capture of the city of Mexico he was wounded. In 1850 he became full captain, and at the termination of hostilities was transferred, first to Florida, and subsequently to New Orleans barracks. In 1856-'57 he was on frontier duty at Fort Leavenworth, engaged in quelling disturbances on the Kansas border. He took part in the Utah Expedition of 1857-'58, and remained in the West until 1861, when he was in garrison at Washington Arsenal, D. C. He resigned from the United States service on the 26th of April, 1861, and, entering the Confederate service as a colonel of cavalry, was appointed assistant adjutant to General Joseph E. Johnston. In 1862 he was made a brigadier-general, and in the latter part of that year a lieutenant-general, and appointed to the command of the army operating in Mississippi. General Pemberton was defeated at Champion Hills in 1863, and subsequently besieged in Vicksburg with his army, then numbering about thirty-four thousand men. On the surrender of that post, July 4, 1863, General Grant met General Pemberton in person, and the terms of capitulation were arranged between them. The paroled prisoners numbered about twenty-seven thousand, two fifths of whom were sick or wounded. At the close of the war he was acting as inspector of artillery at Charleston, South Carolina. Subsequently he engaged in farming near Warrenton, Fauquier County, Virginia. In 1875 he went to Philadelphia, where he resided until his death.

PENNSYLVANIA. The session of the Legislature began early in January, 1881, and ended early in June. This body consisted of 32 Republicans, 16 Democrats, and 2 Greenbackers in the Senate, and 121 Republicans, 78 Democrats, 1 Greenbacker, and 1 Fusionist (Democrat and Greenbacker) in the House. The first matter of importance was the election of a United States Senator to succeed William A. Wallace, who was renominated by the Democrats. A Republican caucus was held on the 13th of January, which was attended by ninety-five members, and, on the third ballot, nominated Henry W. Oliver, who received 79 votes, a majority of the entire Republican membership of the Legislature. Most of the Republicans who refused to attend the caucus decided to vote for Galusha A. Grow. The first ballot, which was taken

on the 18th of January, showed 95 votes for Oliver, 56 for Grow, 93 for Wallace, and four scattering. The contest was prolonged through thirty-four ballots in the joint convention until the 23d of February, when, on the thirty-fifth ballot, a compromise having been effected between the two Republican factions, John I. Mitchell was elected by a vote of 150, to 92 for Wallace and two scattering.

Among the laws enacted at this session were an act to punish frauds upon life-insurance companies by agents, physicians, and others; and also an act supplementary to the school law. It abolishes all distinction of race or color in the public schools. The following are its provisions:

SECTION 1. That hereafter it shall be unlawful for any school director, superintendent, or teacher to make any distinction whatever on account of or by reason of the race or color of any pupil or scholar who may be in attendance upon or seeking admission to any public or common school maintained wholly or in part under the school laws of this Commonwealth.

SEC. 2. That the twenty-fourth section of an act of Assembly approved the 8th day of May, A. D. 1854, entitled "An act for the regulation and continuance of a system of education by common schools," which section is as follows: "That the directors or controllers of the several districts of the State are hereby authorized and required to establish within their respective districts separate schools for the tuition of negro and mulatto children whenever such separate schools can be so located as to accommodate twenty or more pupils; and whenever such separate schools shall be established and kept open four months in any year, the directors or controllers shall not be compelled to admit such pupils into any other school of the district: *Provided*, That in cities or boroughs the board of controllers shall provide for such schools out of the general funds assessed and collected by uniform taxation for educational purposes," be and the same is hereby repealed.

The report of the State Treasurer for the fiscal year ending November 30th shows \$7,001,782 receipts, \$6,926,810 disbursements, and a balance in the Treasury on that date of \$1,890,019. Of the disbursements \$421,801 were for the redemption of State debt. Of the balance, \$911,037 belongs to the general fund, and the remainder to the sinking fund, the February debt interest being payable out of this portion. The total debt of Pennsylvania on December 1st was \$21,140,183. The Treasurer is of opinion that the State taxation can be reduced, and still leave sufficient revenue to meet all the necessary requirement of the State government in the future. For the current fiscal year he estimates that the revenues will be \$6,015,000, and the necessary expenses of the Commonwealth \$5,261,593.

The amount of money paid in the State, in the year 1880, to companies of Pennsylvania and other States, for fire, marine, life, and accident insurance, was as follows:

Premium receipts of Pennsylvania life companies from business in this State	\$1,558,183 67
Premium receipts of life companies of other States from business in Pennsylvania	3,490,618 04
Total premium receipts of life companies in Pennsylvania	\$5,048,801 71

Brought forward	\$5,048,801 71
Premium receipts of Pennsylvania stock, fire, and marine companies in the State	\$2,503,887 88
Receipts of Pennsylvania mutual companies from policies and assessments in the State	1,242,072 29
Total receipts of Pennsylvania fire companies in the State	3,745,960 12
Premium receipts of other State and foreign fire and marine companies	3,144,561 36
Total paid for insurance in Pennsylvania for 1880	\$11,939,323 19

The aggregate is \$496,412.82 greater than the total sum paid for insurance for the year 1879. Life companies show an increase of \$71,097.78 of premiums in the State, divided thus: home companies, \$59,044.18; companies of other States, \$12,053.60.

The Commissioner of Insurance describes the method by which "assessment life-insurance companies" are organized and chartered. He says: "The general practice of companies organized under the act of 1876 to 'insure lives' upon the assessment plan is to issue policies agreeing to pay, not a fixed and certain sum of money, but a sum to be determined by the result of an assessment, after the manner of beneficial societies. There are good reasons for the opinion that this practice is without warrant of law, that these companies can issue none other than policies of insurance, and that a policy of insurance must provide absolutely and unconditionally for the payment of a certain sum at maturity.

"It is not possible," says the commissioner, "to make an accurate classification of assessment companies. They assume many forms, from the purely beneficial order to those ambitious to be ranked among substantial life-insurance companies. They may, however, be divided into three classes:

"1. Beneficial societies and orders instituted mainly for charitable purposes. These distribute benefits in case of death, sickness, and disability, do not employ agents, and are conducted at comparatively little cost to the members.

"2. Organizations conducting the business of life insurance on the co-operative plan with agents and all the machinery of life companies. These generally issue absolute policies of insurance, to pay which at maturity they are not required by law to maintain a reserve. They rely upon assessments and partial accumulations.

"3. Gambling organizations, whose main purpose is to speculate in the lives of old persons and promote the individual interests of officers and agents, who are the principal beneficiaries."

After stating that since his last annual report 131 assessment life companies have been incorporated, he argues that there is no public necessity for the incorporation of so many of these companies, and declares that their main purpose is not to afford the benefits of good and safe insurance, but to enable the officers

to make money and speculate in the lives of others. Forty-two companies reported to this department their business for the year 1880.

From these reports it appears that the companies named had a total income from applications, assessments, and miscellaneous sources, amounting to \$1,353,988.74, which was all expended excepting the sum of \$3,218.74. The sum of \$906,867.67, or 67 per cent of the entire income, was used in the payment of death-claims or returned to members; the sum of \$96,698.64, or 7 per cent of the income, was paid to officers; the sum of \$242,889.93, or 18 per cent of the income, was paid to agents; and the sum of \$104,313.76, or $7\frac{1}{2}$ per cent, was paid for general expenses. Thus it appears that in the aggregate more than 32 per cent of the money collected by these companies was absorbed by the expenses of management.

About 40 per cent of the entire business of the companies was done by the United Brethren Mutual Aid Society of Lebanon, whose experience shows more favorable results than the aggregated experience of the other companies. Deducting the business of the United Brethren, the remaining companies received from applications, assessments, and other sources, \$812,014.57, of which sum \$430,596.24, or 53 per cent, was expended in death-claims or returned to members; \$73,142.10, or 9 per cent, was paid to officers; \$196,287.04, or 24 per cent, to agents; and 10 per cent to miscellaneous expenses: showing an expenditure of 43 per cent of the entire income in management. Twenty-three companies organized in 1880, or at the close of 1879, received \$265,125 in premiums and assessments. Of this sum 70 per cent, or \$186,796, went to officers, agents, expenses, and 25 per cent, or \$66,886, to pay death-losses or return premiums, leaving a balance of less than 5 per cent, or \$11,443, unexpended. Included in the above number are twelve companies that collected \$48,673, spent \$38,520, and did not pay a dollar for death-losses.

The Western Pennsylvania Hospital is composed of two departments, the medical and surgical in Pittsburg, and that for the insane at Dixmont, eight miles distant. The number of patients at Dixmont, September 30, 1879, was 609; during the year ending September 30, 1880, 238 were admitted, making the total number under treatment during that period 847. Of these, 249 were discharged or died, leaving in the institution at the end of the year 598 patients. On the 30th of September, 1879, there were 105 patients in the medical and surgical department; 795 have been since admitted, making the number 900 under treatment during the year. Of these, 784 were discharged or died, leaving in the hospital on September 30, 1880, 116 patients.

The report of the trustees of the Hospital for the Insane at Danville, for the year end-

ing September 30, 1880, shows the following: The number of patients in the hospital at the beginning of the year was 253 males and 191 females; total, 444. The admissions during the year were 113 males and 59 females; total, 172, making the whole number under treatment, for the period covered by the report, 366 males and 250 females; total, 616. The discharges were 143 males and 89 females; total, 232. Of these, 17 males and 18 females were considered restored, 56 improved, 106 stationary, and 35 died. The number remaining at the end of the year was 384, of whom 223 were males and 161 females, or 60 less than at the beginning. This diminution is the result of the transfer to the Norristown Hospital, near the end of August, of all the Philadelphia patients (92) at that time in the hospital which were supported at public expense. The receipts of the hospital from all sources, including \$10,000 from the State Treasury, were \$89,273.86, and the expenditures \$89,339.43, making the average weekly cost per patient, \$3.82. This includes everything—salaries, repairs, and insurance.

There were, in 1880, 7,037 graded schools in the State, an increase of 232 during the year. It is a remarkable fact that while the increase in the number of pupils was only 1,570, the increase in the average attendance was 13,955. The whole number of pupils on the rolls was 937,310, and the average attendance 601,627, or 77 per cent. The average length of the school term remains about the same, seven months. The average cost of tuition for each pupil per month is only seventy-five cents, which shows a very economical administration of the school system. The expenditures of all kinds during the year, exclusive of orphan and normal schools, amounted to \$7,482,577.75. The school property of the State was valued at \$25,467,097. The total indebtedness of all the school districts in the State, cities included, was only \$2,648,495.84, and there remained in the school board treasuries, at the end of the year, \$1,425,213.16.

The report of the Superintendent of Soldiers' Orphans' Schools, for the year ending May 31, 1881, shows that there were under the supervision of the department 2,602 children. Besides these, there were in scattered homes and receiving "out-door relief" twenty-eight others. The increase over the preceding year was twenty-two. The whole amount expended by the State for the support of these schools has been \$7,252,695. The Legislature of 1878 provided that no more children should be admitted into these schools after the 1st of June, 1882, and that they should be finally closed on the 1st of June, 1885.

According to the census of 1880, the total net debt of the State, both local and of the State proper, is \$114,073,342. The following table shows it in detail, the word "local" being used to comprise county, township, city, borough, and school-district debts:

DEBT.	Local.	State.	Total.
Bonded debt.....	\$107,248,000	\$22,076,845	\$129,324,845
Floating debt.....	5,353,601	113,845	5,467,446
Gross debt.....	112,601,601	22,199,669	134,792,270
Sinking-fund.....	19,440,351	1,803,577	20,118,928
Net debt.....	93,191,250	20,882,092	114,073,342

The counties having the largest net debt are:

Allegheny.....	\$21,594,001	Delaware.....	\$1,044,896
Berks.....	1,243,535	Erie.....	1,194,589
Chester.....	954,821	Lancaster.....	1,135,116
Crawford.....	761,925	Lehigh.....	973,897
Dauphin.....	1,472,259	Schuylkill.....	745,378

These figures represent the sum of the debts owed by all the corporate divisions of the counties with the county debt proper. The net county debt proper of Allegheny County is \$4,839,254; of Berks, \$180,000; Chester, \$418,020; Crawford, 290,000; Dauphin, \$283,278; Delaware, \$473,200; Erie, \$9,114; Lancaster, \$368,972; Lehigh, \$73,349; and Schuylkill, \$254,900.

The following counties have no debt as counties: Adams, Butler, Cambria, Fayette, Fulton, Green, Lycoming, Northampton, Snyder, Susquehanna, Union, Washington, Westmoreland, and Wyoming.

The total township debt of the State is \$389,051, of which \$293,568 is floating. There are twenty-nine cities in the State, each having over 7,500 population. Their net debt and its per capita are shown in the following table:

CITIES AND TOWNS.	Net debt.	Net debt per capita.
Allentown.....	\$430,448	\$23 82
Allegheny City.....	1,596,429	20 29
Altoona.....	350,090	17 75
Carbondale.....	9,369	1 22
Chester.....	357,084	23 81
Columbia.....	151,500	13 23
Danville.....	178,767	22 95
Easton.....	219,949	18 46
Erie.....	1,148,729	41 43
Harrisburg.....	1,065,300	34 59
Johnstown.....	37,000	4 42
Lancaster.....	464,142	18 02
Lebanon.....	303,700	35 17
McKeesport.....	119,100	14 50
Meadville.....	77,699	8 77
New Castle.....	72,624	8 63
Norristown.....	81,200	6 22
Philadelphia.....	54,223,844	64 02
Pittsburg.....	14,134,296	90 33
Pottsville.....	80,442	6 15
Reading.....	999,000	23 03
Scranton.....	325,202	7 09
Shamokin.....	37,650	4 60
Shenandoah.....	72,800	6 98
Titusville.....	323,267	36 23
Wilkesbarre.....	95,096	4 07
Williamsport.....	651,272	34 40
York.....	33,000	2 36

The debt of Philadelphia city in detail is:

Bonded.....	\$70,970,042
Floating.....	1,294,554
Gross.....	\$72,264,596
Sinking-fund.....	18,040,752
Net.....	\$54,223,844

The following is the official return of the population of towns and cities in Pennsylvania of 10,000 inhabitants and upward:

Philadelphia.....	846,984	Altoona.....	19,716
Pittsburg.....	156,381	Williamsport.....	18,984
Allegheny.....	73,681	Allentown.....	18,063
Scranton.....	45,350	Chester.....	14,996
Reading.....	43,280	York.....	13,940
Harrisburg.....	30,760	Pottsville.....	13,253
Erie.....	27,730	Morristown.....	13,064
Lancaster.....	25,759	Easton.....	11,924
Wilkesbarre.....	23,339	Shenandoah.....	10,143

In the production of iron and steel in blast-furnaces, rolling-mills, steel-works, forges, and bloomeries, Pennsylvania takes the first rank. The capital invested in these industries in the United States in 1880 amounted to \$230,971,884, of which Pennsylvania furnished 46 per cent. The total product was 7,265,140 tons, of which Pennsylvania produced 3,616,668, or nearly 50 per cent.

The following counties are the principal centers of production of iron and steel: Allegheny, 848,146 tons; Lehigh, 324,875; Northampton, 322,882; Cambria, 260,140; Dauphin, 223,676; Berks, 213,580; Mercer, 182,881; Montgomery, 168,628; Lackawanna, 151,273.

Of 3,781,021 tons of pig-iron and direct castings produced in 1880, in twenty-two States, Pennsylvania made 1,930,314 tons, or 51 per cent. Of 2,353,248 tons of rolled iron of all kinds produced in twenty-nine States and Territories in 1880, Pennsylvania made 46 per cent.

The total production of rails for 1880 was 1,217,497 tons. Of the total production of rails, Pennsylvania made 47 per cent.

Of steel ingots, the total production in 1880 was 985,208 tons. Of this, Pennsylvania made 56 per cent. Of the production of Bessemer steel rails, Pennsylvania made 55 per cent.

The total product of iron-ore in the United States in 1880 was 8,022,398 tons, of which Pennsylvania produced more than any other State, viz., 2,173,415 tons, or 27.09 per cent. The principal ore-producing counties are: Lehigh, 321,322 tons; Lebanon, 285,629; Berks, 252,940; Blair, 154,914; Northampton, 104,788. The State produced, in 1880, 28,640,819 tons of anthracite, being the entire product of the country except 6,176 tons. It also produces more bituminous coal than any other State, viz., 18,425,163 tons in 1880, out of a total of 42,420,581 tons for the United States. Of barley, it produced 438,100 bushels; buckwheat, 3,593,326; corn, 45,821,531; oats, 33,841,439; rye, 3,683,621; wheat, 19,462,405.

The Republican State Convention met at Harrisburg on the 8th of September, and nominated General Silas M. Baily, of Fayette County, for State Treasurer. The platform adopted contained the following among other resolutions:

Resolved, That the Republican party of Pennsylvania is in most hearty accord with the Administration of President Garfield, and, while uniting in the prayers of all good people for his speedy recovery, pledges continued fealty and most active support in prompt and courageous correction of all governmental abuses. As Republicans, we are in favor of any proper, well-considered reform, either in government, nation, State, municipality or county, and we court suggestions to any or all of these ends, and only ask that in their advocacy well-established safeguards

shall not be hastily supplemented by experiments. The Administration of President Garfield has set the right example in this direction, and, while firmly adhering to the principles and better practices of the great party which called it into existence, it yet insists upon faithfulness and honesty in every branch of the public service. The bullet of the assassin should not interrupt this work. It should be pursued while its author lives, and beyond his life, if through increasing misfortune it should be taken away.

Resolved, That the Republican party has ever been progressive and reformatory, and while realizing that nothing in government is wholly right, we desire to be always brave to seek every avenue of approach to the right, to the end that all our people may enjoy ever the increasing blessings of good government.

Resolved, That in any revision of our tariff legislation which may be made, care shall be taken to discriminate in favor of our own industries, and thereby promote the causes which are rapidly making America the controlling power in the finances as it already is the established leader in political thought.

The Democratic State Convention convened at Williamsport on the 28th of September, and nominated Orange Noble, of Erie. The platform adopted contained the following among other resolutions:

Resolved, That we, the Democratic party of Pennsylvania, in convention assembled declare:

1. For the preservation of the Constitution of the United States, home rule, freedom of elections, for resistance to revolutionary changes tending to consolidation or empire; against the election of any person to the presidency a third time, and against the presence of troops at the polls; against the appropriation of public money for any purpose but the support of Government, and against class legislation which despoils labor to build up monopoly.

2. That the Democratic party, as of old, favors a constitutional currency of gold and silver in all forms, and coalition with repudiators merits the condemnation of honest people. The refusal of a Republican Administration to accede to the Democratic demand for a further reduction in the rate of interest on the national debt subjects the Government to a needless expense of millions of dollars annually. . . .

7. That no monopoly or exclusive right in the forces of nature, in grants of eminent domain, in the diffusion of information among the people by telegraph and associations for furnishing dispatches to the press, or the grant of privileges affecting the daily business of the citizen, can or ought rightfully to exist under our form of government. These are at all times to be subject to such legislative regulation and control as the rights and interests of the people demand. That the delegated power of Congress to regulate commerce among the States and the reserved power of the States to regulate the same within their borders should be forthwith exercised to prevent unjust discrimination by common carriers against individuals and localities, and all the provisions of the Constitution of Pennsylvania relative to the exercise and abuse of the corporate franchise and the duties of common carriers to the public should be enforced without delay by appropriate legislation. That all governmental power should be used in restraint of monopolies and not in aid of them, and simple and speedy remedies should be provided by legislative enactment by which any citizen injured in his business may, in State and Federal courts, by due process of law, have quick, certain, and adequate redress for corporate wrongs; that vested rights must be protected and respected, and great corporations warring between themselves to the injury of the public interests and their own shareholders must be regulated and controlled by wise and effective laws; that franchises, the property of the people, shall be granted and exercised solely for the public benefit, and subject to immediate and absolute forfeiture by due process of law when used

for oppression or extortion, or when otherwise abused. No corporation should be above the people or the law. We thus reaffirm the ancient doctrines of the Democratic party and most cordially invite our fellow-citizens, of whatever party, to join with us in carrying out the principles and policy we hereby announce, and to the advocacy of which we pledge ourselves until the right shall prevail.

The Greenback State Convention was held at Pottsville on the 15th of June. R. W. Jackson, of Mercer County, was nominated. The platform which was adopted by this convention denounces the aggregation of real estate by corporations, when not in actual use; the agents of money, commerce, and transportation; and claims that the transmission of intelligence should be made subservient to the Constitution, and that the voters should demand the necessary statutes to keep these agents under the control of the people; denounces monopolies; censures the Legislature for its failure to pass the anti-freight discrimination bill; demands protection to American labor and produce; denounces national banks for their attempt to coerce Congress by withdrawal of their circulation; indignantly denies the charge of the subsidized press that the Greenback-Labor party favors an unlimited issue of currency, and declares that only such volume of currency as business requires shall be issued; denounces the national-bank system as legalized robbery; and indorses Weaver and Chambers.

After the Republican State Convention, Charles S. Wolfe announced himself as an independent candidate for State Treasurer, and appealed for support to those Republicans who were dissatisfied with the party management. The election resulted in the choice of General Bailly by a plurality of 6,824. The vote was as follows: Bailly, 265,295; Noble, 258,471; Wolfe, 49,984; Jackson, 14,976; Wilson (Prohibition), 4,507; scattering, 168.

After the election the supporters of Mr. Wolfe, organized as the Citizens' Republican Association, announced their determination to continue their efforts, and issued an address which sets forth their objects thus: "It is the purpose of the Citizens' Republican Association of Pennsylvania to labor for the maintenance of the following principles, and the attainment of the following objects: The purification and preservation of the Republican party; the overthrow of bossism; the right of a fairly chosen and unfettered majority to nominate; the reform of the civil service; the elevation of the intellectual and moral standard of our officials—national, State, and municipal; and a ceaseless warfare against the spoils system—that fruitful parent of the numberless political evils which menace the perpetuation of our republican form of government, and which led to the cowardly assassination of the Chief Magistrate of our nation."

Following is the population of Pennsylvania by counties, as finally returned by the census of 1880, and as reported in 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adams.....	32,455	30,315	Elk.....	12,800	8,458	Montgomery..	96,494	81,612
Allegheny.....	355,569	262,204	Erie.....	74,688	65,973	Montour.....	15,468	15,344
Armstrong.....	47,641	43,882	Fayette.....	58,842	43,284	Northampton...	70,812	61,432
Beaver.....	39,605	36,148	Forest.....	4,385	4,010	Northumberland	53,123	41,444
Bedford.....	34,929	29,635	Franklin.....	49,855	45,365	Perry.....	27,522	25,447
Berks.....	122,597	106,701	Fulton.....	10,149	9,360	Philadelphia...	547,170	674,022
Blair.....	52,740	38,051	Greene.....	23,273	25,887	Pike.....	9,663	8,436
Bradford.....	53,541	53,204	Huntingdon....	33,954	31,251	Potter.....	13,797	11,265
Bucks.....	68,656	64,386	Indiana.....	40,527	36,133	Schuylkill.....	129,974	116,428
Butler.....	52,536	36,510	Jefferson.....	27,935	21,656	Snyder.....	17,797	15,606
Cambria.....	46,511	36,569	Juniata.....	18,227	17,390	Somerset.....	33,110	23,226
Cameron.....	5,159	4,273	Laekawanna*..	89,269	.....	Sullivan.....	8,073	6,191
Carbon.....	31,923	28,144	Lancaster.....	139,447	121,340	Susquehanna...	40,351	37,523
Centre.....	37,922	34,418	Lawrence.....	33,312	27,298	Tioga.....	45,814	35,097
Chester.....	33,431	77,305	Lebanon.....	38,476	34,096	Union.....	16,905	15,565
Clarion.....	40,328	26,537	Lehigh.....	65,969	56,796	Venango.....	43,670	47,925
Clearfield.....	43,408	25,741	Luzerne.....	133,065	160,915	Warren.....	27,931	23,897
Clinton.....	26,278	23,211	Lycoming.....	57,486	47,626	Washington....	55,418	43,433
Columbia.....	32,409	23,766	McKean.....	42,565	8,825	Wayne.....	33,513	33,188
Crawford.....	63,607	63,832	Mercer.....	56,161	49,977	Westmoreland..	78,036	53,719
Cumberland....	43,977	43,912	Mifflin.....	19,577	17,503	Wyoming.....	15,598	14,585
Dauphin.....	76,143	60,740	Monroe.....	20,175	18,362	York.....	87,841	76,134
Delaware.....	56,101	39,403						
The State.....							4,252,891	3,521,951

PERSIA,† a country of Asia. Reigning sovereign, the Shah Nasr-ed-Din, born April 24, 1831; succeeded his father, Shah Mohammed, in September, 1848. The heir-apparent to the throne, Muzaffer-ed-Din, was born in 1854, and has two sons.

The area of Persia is about 1,647,700 square kilometres, or 637,000 square miles. The population is estimated at about 7,653,606, of whom 1,963,800 are inhabitants of cities, 3,780,000 belong to the rural population, and 1,909,800 are nomads. The population is divided, according to the religion, as follows: 6,860,600 Shiites, 700,000 Sunnites and other Mohammedan sects, 8,000 Parsees, 19,000 Jews, 43,000 Armenians, and 23,000 Nestorians and Chaldeans. In 1876 the revenue was estimated at 34,720,000 francs in money and 6,360,000 francs in grain, making a total of 41,080,000 francs, of which 31,000,000 francs are direct taxes and 5,000,000 francs customs. The expenditure amounted to 40,000,000 francs.

The first regular postal service was opened in January, 1877. In 1879 the number of post-offices was thirty-five; of letters sent, 423,608; of postal-cards, 2,400; of printed matter, etc., 6,430 pieces.

The Kurdish tribes in the north of Persia seem to have been connected with the Russian advance in Central Asia and Armenia. The followers of the Sheik Abdullah, who proved more than a match for the Persian soldiers, were armed with Martini rifles, such as were captured from the Turks in the late war at Kars and Ardahan. The scene of the invasion was the great province of Azerbaijan, a portion of which projects in the form of a wedge between the Russian Trans-Caucasian dominion and Turkish Kurdistan, reaching nearly to Mount Ararat. The defeat of the Persian troops by the Kurds, who captured a number of cannon in the engagement, made the Kurdish invasion a serious matter for Per-

sia. The Sheik Abdallah was aiming at the creation of an independent Kurdistan, and, it was stated, offered the sovereignty to Abbas Mirza, the brother of the Shah. This prince was the son of a Kurdish mother, and had lived some time in banishment. The Persians had more than they could do to keep out the Kurds, who make admirable infantry, and, armed with breech-loaders, in that mountainous country were a dangerous foe. But the more efficient Turkish troops were quickly brought into the field, and deprived the Russians of the opportunity, if one were sought, of occupying that desirable province, on the pretext of bringing assistance to the Shah. The defense on the part of the Persians also was much more efficient after the appointment of Ala-ed-Dauleh to the command of the troops. By July peace reigned in nearly the entire province. Austrian officers were employed to instruct and lead the troops, and considerable quantities of improved arms were brought from Austria.

The Shah some years ago announced to the powers that he had appointed as his successor to the throne his second son, Muzaffer-ed-Din, who is Governor of Tabreez, to the exclusion of his eldest son, Massud Mirza, the Zil-es-Sultan ("Shadow of the Shah"), who is Governor of Ispahan. This act was in accordance with the Persian custom of making the son of the mother of highest birth the heir, as the Shah's second wife was a princess, while the first was of lower rank. The Zil-es-Sultan has administered the central provinces of Persia for several years, and by his extortions acquired great wealth. A large loan which he made to his father recently was given on the condition that he should receive larger powers than before. He is the more resolute of the two princes, and the enlargement of his authority which he obtained is intended probably to enable him the better to dispute his brother's title to the throne upon the demise of the present Shah. A conflict between the brothers

* In 1873, from part of Luzerne.

† For other statistics, see "Annual Cyclopædia" for 1880.

would take the form of a civil war between the north and the south of Persia. If Russia took the part of the northern claimant, Great Britain might be impelled to take sides with the other, and Persia be divided into two kingdoms dominated by the two great rival powers.

The governorship of Kermanshah was conferred upon Massud Mirza in addition to his other offices, making him the ruler of more than half Persia.

Six great schemes for railroads in Persia have been proposed. The British scheme of an international railway from Scutari to India does not seem as near accomplishment as it did a few years ago. This route would lead through Bagdad, Ispahan, Yezd, and Bunder Abbas, and thence along the coast of Kurrachce. The English have proposed also to merely connect India with Persia, and Russia and Turkey have each planned to extend their railway systems into Persia. The Persians have projected a railroad net-work of their own, with international connections under their own control. In all of these projects the strategic and political aspect is of not less importance than the commercial, and the two can not be disconnected in railroad enterprise in the East. Four of the projected routes were to enter Persia from the west, and two from the east. The British operations in Afghanistan led to the discussion of a new route from India, which would have some advantages over the one along the coast of the Persian Gulf from Kurrachce. From the same port, at the mouth of the Indus, it would pass through the Candahar-Herat depression and reach Ispahan by the route north of the plateau of Iran *via* Meshed. The Afghanistan section of this railroad was begun during the British invasion of Afghanistan, and the line was completed to Sibi, half-way to Candahar. The Turks have a line built from Scutari to Ismeed, and under construction to Angora; while they are preparing to extend it to Sinope and Samsoon on the Black Sea. The British or anti-Russian scheme of an intercontinental railroad would have this line extended to Bagdad, and connected with a road from India. The extension of the Austrian railroads to Salonica, and the connection of Vienna and Pesth with Constantinople by rail, would join this trans-Asian line to all the capitals of Europe by means of a ferry across the Bosphorus. The strategic necessities connected with the defense of India, which constitute the main argument in favor of the Euphrates Valley scheme with the British, are now fully met by the Suez Canal. The Russians are more active and sagacious than either the British or the Turks in their efforts to obtain railroad connection with Persia, which is the key to both commercial and political supremacy. The road from St. Petersburg into the Caucasus, which has been built some time as far as Vladikavkas, is advancing to Erivan, and a concession was obtained from the Persian Government to extend it to the

prosperous town of Tabreez; but the latter concession—which would bring the Russians close to the Caspian port of Reshd, or Enzellee, and the prime provinces of Ghilan and Mazanderan, and within striking distance of the Persian capital, Teheran, and would place Herat within reach—was canceled at the instance of the Disraeli Government. A scheme for a Persian railway from Tabreez, through Reshd, Teheran, and Ispahan, to Bushire on the Persian Gulf, was proposed by Baron Reuter, but encountered the opposition of both the English and the Russian Governments.

The Russians and the British are already rivals in Persia. The latter are attracted by the valuable trade of the country, and by the consideration that the overland routes to India lead through Persia. The English political thinkers who have not lulled themselves into a restful security, which even the blunt acknowledgment that Russia will meet British opposition in Europe with diversions on the side of India does not disturb, are now more than ever eager for the establishment of British control in Persia. Since the attempt to guard the road to India by way of Herat and Candahar, the only practical military route, ended in a *fiasco*, the voluntary submission or forcible subjection of Persia to a British protectorate seems the only safeguard against such diversions and their consequences. If the Russians obtain the ascendancy in Persia, they can establish themselves in Herat and march at any time into India; whereas, if the British obtain the military control of Persia, they would possess a line of impregnable natural fortresses which command the Russian routes all the way from the Caspian.

The English have a preponderant interest in the commerce of Persia, and would soon acquire the political control which follows upon mercantile supremacy if they were not opposed by the more astute, vigilant, and aggressive political policy of Russia. When Russian and British influences are brought into contact and antagonism in Oriental courts and nations, the former seem destined always to prevail. The Russian policy, if less truthful and square, is oftentimes more humane, generous, and substantially just, and is guided by a perfect knowledge of the mind and character of the Oriental peoples, which centuries of contact can not give to the English. Persia is divided between English and Russian counsels, but the geographical position of Russia, as well as her active spirit of encroachment, and the intellectual affinity between Russians and Orientals, give to her a decided advantage in the contest. The Russian railroads already extend into the Persian dominions. Russia has acquired Ashurada, the most commanding Persian port on the Caspian, and has obtained the complete maritime supremacy on that sea. The military domination and commercial primacy which Russia now possesses in the northern provinces, which are the richest part of Persia, the abode of the

government, and the center of power of every kind, more than counterbalance the commercial interests which connect the rest of Persia with India and Great Britain. The acquisition of the freedom of Ashurada port destroys the value of the mountain frontier abutting on Kara Kum Desert, which might otherwise have been fortified and held against all the armies in the world. Russia, from that port, dominates the whole interior. The court at Teheran already bows to the will of the Czar.

The magnificent provinces of Ghilan and Mazanderan are not only the richest part of Persia, but one of the most fertile belts of country in the world. The northern slopes of the Elburz Mountains, which traverse them, are covered with forests of teak, oak, walnut, and box. On their southern plateau are mines of coal and iron. These are the scene of Russian mercantile enterprise, and may in the future be merged in the Muscovite Empire. The oasis of Merv, at the northeast corner of Persia, which has been conquered by the Russians, is a fertile tract, ninety miles in circumference, which bears three crops a year, and once supported a million inhabitants. This acquisition brings Russia into contact with the great province of Khorassan, and, though the Merv country is not likely to be occupied, and affords no means of commercial communication, the Russians have won the undying gratitude of the inhabitants of this section of Persia by their subjugation of the Akkal Tekke Turkomans.

The tent-dwelling Turkomans of the Kara Kum are of the same race as the civilized Kajar tribe, from which the Persian royal family sprang. Fearless, capable of extraordinary exertions and endurance, mounted on the best horses in the world, and cruel beyond conception, the horrors which they have committed are well calculated to cause the Persians to tremble at the mention of their name. For three or four centuries they have been the scourge of the country. The Beloochee marauders who infest the southern parts of Persia, and travel several hundreds of miles into the Salt Desert on their plundering expeditions, carried by their wonderfully fleet and enduring camels, are simple robbers. They drive off the sheep and camels which they find in their way, and lurk in ambush behind the sand-hills of the desert to fall upon passing caravans. They treat their victims rudely and plunder them thoroughly, but seldom commit murder. The Turkomans, on the other hand, would lay whole villages waste, carry off into slavery those whom they selected, and slay all the rest. When hotly pressed in pursuit they were accustomed to cut off the hands and feet of their captives and leave them by the wayside. The more aristocratic captives were preferable for sale or ransom. Women slaves were valued the most. Their inroads were as swift as they were daring, and, unless there were military to oppose them, always successful. The prisoners were lashed on the backs of

horses and given no rest until they reached the Turkoman tents. There they were heavily ironed with a ring around their neck and a chain fastening it to a tent-peg, and with rings around each leg, joined by a short chain. Their market was in Khiva and Bokhara. Until the slave-trade was suppressed in those places by the Russians there were as many as 100,000 slaves kept in the khanates and among the Turkomans themselves. The trade is still carried on secretly in Bokhara to a small extent, and the Turkomans still capture slaves in some parts of Khorassan to work them in their own country or hold them for ransom. The Russians are said to have liberated 40,000 slaves in Khiva alone. Great numbers were killed when returning to Persia, but in all parts of Khorassan there are emancipated captives, of all ranks, who are full of gratitude toward their deliverers. The place where the Turkomans formerly captured the most valuable slaves was on the caravan-road from Teheran to Meshed, in the neighborhood of MianDasht, which is far in the interior and not far from the middle of the route. The Shah pays a reward of five *tomans* (about ten dollars) for every Turkoman killed while raiding in his dominions, upon the delivery of the scalps.

The nominal strength of the Persian army is 100,000 men; but it is doubtful whether more than one fifth of that number are ever in camp at one time, or would be likely to obey a call to arms. The army is not recruited from the Persians, who are not warlike nor habituated to the use of arms, and who, by influence and bribery, manage to evade the conscription. It is mainly drawn now, and probably was in ancient times, when the Persian conquests extended from Egypt to China, from the Toorks of Azerbaijan, the Kurdish mountaineers of Kurdistan, and from the Loor, Bukhtirgar, and Eliant tribes inhabiting the mountain chains south and east of the Zagros range. The standing army, with the exception of the Shah's body-guard, is entirely composed of these tribesmen, who still keep up much of the tribal organization, and whose chiefs and khans are appointed to the commissions in the regiments composed of their hereditary followers. The organization of the army is according to the European model, but it is only so in name. It was introduced by British officers, who have twice been employed by the Shah to organize and instruct his army. Austrian officers have recently been called to Persia as instructors, but only a few remained there. There are 77 battalions of infantry, with an average strength of 800 men each, and 79 regiments of cavalry, consisting of eight troops of 50 sabers each. The officers are without military education, and the men are devoid of drill or discipline. Bribery and favoritism govern the promotions. There is often, however, a strong attachment between officers and men, and an *esprit de corps* partaking of the clan feeling. Many of the officers are devoted to their profession, and

need only instruction to make good soldiers of their men. The army is raised by conscription, which falls very unequally on different districts and tribes. The War-Office does not even pretend to levy the troops in proportion to the population of the different districts. Many towns escape the conscription entirely. The nomad tribes, which are without court influence, and are too poor to bribe the officials, are required to furnish far more than their rightful share. The men are supposed to be discharged after a short term of service, and replaced by fresh annual contingents; but oftentimes the discharge can only be obtained by bribery, and many are kept in the service all their lives. Their *physique* is excellent, their nature patient and cheerful, and their disposition toward their commanders obedient and tractable. Their powers of marching are celebrated, but the system which enables them to get over the ground so rapidly is fatal to good discipline. Most of the soldiers possess donkeys, which they ride on the march, carrying also the arms of their comrades who go on foot. They do not form, or make any attempt to march in order, but each one takes his own pace; still, by means of their beasts they accomplish a longer march in a day than any infantry can make on foot only. They wear a tunic of the European pattern, and a black, lamb's-wool *busby*, with a brass ornament representing the emblems of the lion and the sun. The effect of the uniform is entirely destroyed, however, by the long frocks which they generally wear under the tunic, and the cloths wound around their heads in the summer-time, on the top of which they set their caps. They are partly armed with breech-loading rifles, which have been lately furnished; but the majority carry muzzle-loading, smooth-bore muskets, of French make. The cavalry are equally wanting in order and discipline, but adapted, if well led, for good service of the irregular kind. They are mounted on strong, stanch horses of all sizes. They are uniformed in long, dark-blue frocks, sheep-skin busbys, and brown-leather boots, reaching halfway to the knee. They carry a rifle and a saber, which is very much curved and has no guard for the hand. The cartridges for their carbines are carried in their brown-leather belts. To the bridle is fastened a camel's-hair rope, with an iron peg at the end, for picketing. The artillery is the best disciplined branch of the army. Their armament, however, is defective, consisting mainly of old smooth-bore nine-pound guns, though a considerable number of Uchatius rifled cannon have recently been imported. Not over 20,000 troops are kept under arms, garrisoning the principal towns and guarding frontier posts. The remainder are with their flocks and herds, or engaging in their agricultural or commercial occupations. The pay is nominal and never reaches them. Their rations are liberal, according to the regulations, but usually there are no rations given out at all. The soldiers are consequently

driven, when not assigned to duty, to ply the not very respectable trades of drug-selling and usury, and even the sentries on guard have little tables covered with wares which they sell to passers-by.

PERU (REPÚBLICA DEL PERÚ). For details concerning territorial division, area, population, etc., reference may be made to the "Annual Cyclopædia" for 1873, 1875, 1878, and to the article BOLIVIA in the volume for 1879.

The home of the ancient Incas, and afterward a Spanish viceroyalty, it was not until 1824 that Peru became an independent republic, although her declaration of independence dates from July 28, 1821. By the terms of the latest Constitution, proclaimed on August 31, 1867, and modeled after that of the United States, the legislative power resides in a Senate, composed of two members from each province; and a House of Representatives, whose members, at the rate of one for every 20,000 inhabitants, are nominated by the electoral colleges of provinces and parishes. The parochial electoral colleges send deputies to the provincial colleges, and these in turn send representatives to Congress. In the session of 1876 there were 44 Senators, and the members of the House of Representatives numbered 110. The executive power is vested in a President, assisted by a Vice-President, both elected by the people for a term of four years. The last constitutional President was General Ignacio Prado, who, despairing of a successful resistance against the victorious Chilean invader, left his country in December, 1879. From that time until the fall of Lima, in January, 1881, the government was in the hands of the Dictator, Don Nicolás de Piérola. After the decisive battles of Chorrillos and Miraflores, and the occupation of the capital by the Chilean troops, Piérola fled to the mountains with the *débris* of his army, and for several months maintained a warlike attitude toward the conquerors.

In March a number of leading men of Lima met in council, and elected, as Provisional President, Señor Don F. García Calderon, with a Cabinet composed of the following ministers: Foreign Affairs, Señor Arenas; Interior, Señor Torrico; Finance, Señor Elguera; Justice, Señor Paz Soldan; War, Señor Carillo. This election was afterward ratified by a Congress convened under the direction of the Chilean commander-in-chief, at Chorrillos (July 10th). But the end of the year found Peru in the deplorable situation of a country without a government of its own, without any regular armed force by land or by sea, and deprived of the chief sources of national income:—President Calderon deported to Chili; the remnants of the army scattered far and wide in the train of reckless guerrilla chiefs; the navy annihilated; the nitrate and guano deposits in the possession of and controlled by the invader; and the proceeds of the customs applied to support the Chilean army of occupation. The peace

strength of the Peruvian land forces seldom exceeded 6,000, including some 1,200 gendarmes, and about an equal number of *vigilantes*, constituting the organized police force. After the declaration of war against Chili, the military strength was raised to 40,000 (May, 1879), and the number of men under arms in the summer of 1880 was reported at 70,000, a figure apparently very much exaggerated. Of the navy, but a few years ago accounted one of the finest in America, destruction in engagements with, and capture by, the Chilean fleet, had, by the end of 1880, left nothing to Peru.

The national revenue for 1873-'74 was 62,-753,903 soles;* that for 1875-'76 was 66,601,-664; and the expenditure for the same periods amounted respectively to 65,500,836 and 65,-063,122 soles. There was no direct taxation in Peru, and the revenue was for the most part derived from the sale of nitrate and guano, and from the customs, the yield of which latter for the years 1873-'77 having been 8,400,000 soles, 7,097,000 soles, 17,082,000 soles, 5,541,664 soles, and 4,005,689 soles, respectively. As for the sale of guano,† before the war, the average annual exportation of that commodity for the decennial period 1868-'77 has been set down at 400,000 tons, valued at \$23,000,000. Of the disposal of guano under Chilean administration mention will be made hereafter; and, for information on the same subject, reference may be made to the "Annual Cyclopædia" for 1880 (page 624).

As stated in our volume for 1880, the national debt of the republic in July, 1879, amounted to upward of 246,000,000 soles, exclusive of a floating debt variously estimated at from 20,000,000 to 25,000,000. Of the entire indebtedness, 20,000,000 soles represents the home debt, and 226,340,516 the foreign debt, made up of loans contracted in England in 1869, 1870, and 1872. No payment of interest on these loans has been made since the commencement of the war, and the British bondholders were for some time in a state verging on despair. The bonds at the end of 1881 were quoted very low, scarcely higher than in the darkest days of the war. In March, 1881, the 6 per cents railway loan of 1870 were worth 26, and the 5 per cents of 1872 sold at 21; in December of the same year the quotations of the latter were given at 19½-20½. That they have any value at all is owing to Chilean generosity, the Chilean Government having consented to the shipment, for the benefit of the bondholders, of guano from the deposits secured by conquest, on condition of the payment of a royalty of £1 10s. per ton to the Chilean Treasury. The sales are in the hands of Messrs. Gibbs & Co., of London, who, from April to December, 1881, had sold 16,442 tons for the gross sum of £120,000,

of which £17,829 had been distributed among the bondholders.*

The Chilean authorities having, shortly after the capture of Lima, established a tariff of customs duties on imports and exports, Mr. Christiancy, late United States Minister to Peru, presuming that said tariff would probably be adhered to during the continuance of the Chilean military occupation, and "thinking it might be well that our merchants and ship-owners should have information upon the subject, inasmuch as it might affect their action in questions bearing upon commercial ventures with Peru," forwarded to the Department of State at Washington a copy of the decrees concerning the new tariff, and an extract of which is here transcribed:

Patricio Lynch, Rear-Admiral and General-in-Chief of the Army of Chili.

Whereas, I have on this date decreed the following: Considering that it is just that the Government of Chili should obtain from the territory occupied by their military forces all the benefit compatible with the interest of its commerce and industry—I decree:

DUTIES UPON IMPORTS.

ARTICLE I. All merchandise imported into the port of Callao shall pay an *ad valorem* duty of 25 per cent, with the exception of the following, which shall pay:

ART. II. A duty of 15 per cent: Tar and pitch for use of ships; animals alive or slaughtered; quicksilver in jars; charcoal and mineral coal; oakum for calking; woolen felt (barred) for use of shipping; pig-iron in bars, unwrought, square, round, or in plates; iron axles or champs (or hoops); fresh prints; printing-presses and utensils; machinery for agriculture and mining; flower-seeds and garden-seeds; printer's ink.

ART. III. A duty of 10 per cent:

Sub. 1. Chilean products, and merchandise free, or on which duty has been paid in Chili.

Sub. 2. Peruvian products coming from ports occupied by Chilean arms.

ART. IV. A specific duty:

Sub. 1. Brandies, bottles of the common size, \$4 per dozen; brandies, 42 cents per litre; coffee, 15 cents per kilogramme; beer, \$1.25 per dozen bottles; beer, 12 cents per litre; cigars, \$3 per kilogramme; alcohol (pure), 50 cents per litre; gin, \$3 per dozen bottles; gin, 32 cents per litre; sweet liquors, \$4.50 per dozen bottles; sweet liquors, 48 cents per litre; lard, 5 cents per kilogramme; snuff, \$3 per kilogramme; burning rum (or burning alcohol), \$4 per dozen bottles; burning rum (or burning alcohol), 42 cents per litre; Havana tobacco, \$2 per kilogramme; other tobacco, \$1 per kilogramme; tea, 75 cents per kilogramme; white wine, 32 cents per litre; white wine, \$3 per dozen bottles; red wine, \$2.25 per dozen bottles; red wine, 25 cents per litre; Paraguay tea, 6 cents per kilogramme.

Sub. 2. Products of Chili and articles on which, being subject to specific duties, duty has been already paid in Chili, shall pay 25 per cent of those established in last above.

Sub. 1. Peruvian products coming from ports occupied by the Chilean arms shall pay the same duties as Chilean products subject to specific duties.

ART. V. The appraisement shall be according to the Peruvian tariff of 1830.

ART. VI. The collector of customs will prescribe the special rules and modes of proceeding in the case of documents presented for dispatch.

ART. VII. All other import duties in force at the

* The sol is equivalent to about ninety cents of United States money.

† For nitrate exports, see page 737.

* See the articles CHILI and PERU in the "Annual Cyclopædia" for 1880, and CHILI in the present volume.

time of occupation shall be collected in the form which the chief collector of customs shall determine.

ART. VIII. All merchandise disembarked should be immediately dispatched for consumption. If from exceptional circumstances, duly certified to by the chief collector of customs, it shall not be possible to dispatch from the port the merchandise disembarked, these may be deposited in the stores of the custom-house for fifteen days. The compensation for storage shall be equivalent to 2 per cent of the value of the merchandise. If, at the expiration of fifteen days, the merchandise shall not have been dispatched, the collector of customs shall proceed to sell them at auction to the highest bidder, and, after deduction of costs and duties, the remainder shall be held in deposit to the credit of whom it may concern.

PAYMENT OF DUTIES.

ART. XI. The duties may be paid, at the option of the payer, (1) in the silver peso (dollar) of any nationality, provided always that, by weight and standard, it shall not be worth less than that of Chili; (2) in gold coin, computing the peso at 38 pence each; (3) in treasury bills of Chili at such rates of discount as shall be fixed at these headquarters within the first two weeks of each month.

ART. XII. This decree shall take effect from and after the 8th of June, proximo.

The decrees of the 22d January and the 15th February last are repealed.

Given in the Government House, in Lima, this 24th of May, 1881.

PATRICK LYNCH.

MANUEL DIAZ B., Secretary-General.

Patrick Lynch, Rear-Admiral and General-in-Chief of the Army of Chili.

Whereas, I have this day decreed as follows:

FOR EXPORTATION.

ART. V. Merchants wishing to export sugar, or any article subject to export duties, from any port lying north or south of Callao, may do so by complying with the following provisions:

1. They shall present an application to the collector of customs at Callao, mentioning the name of the port (or ports) in which the goods are to be discharged, together with the quantity to be exported. On arranging for the payment of duties on the merchandise to be exported, the parties interested shall furnish a certificate of deposit, or a promissory note, indorsed to the satisfaction of the collector, as security for the amount of such duties.

2. The payment of said amount shall be required, if, during the period which shall be fixed by the collector, and which shall not exceed one month, it shall not be satisfactorily shown that the exportation has been impossible, owing to some unforeseen occurrence, or to *vis major*.

3. Notwithstanding the provisions contained in the foregoing paragraph, the collector may require the payment of the export duties to be made in cash whenever he shall deem it proper so to do.

ART. VI. The duties having been paid, or a sufficient guarantee furnished for their payment, the collector shall issue an order in duplicate, in which shall be stated the name of the vessel which is to receive the goods, the exact quantity of the latter, the name of the port (or ports) in which they are to be discharged, and such other particulars as may tend to prevent abuses. Both copies shall bear the approval and seal of the military commander of Callao.

ART. VII. The order referred to in the foregoing article shall be delivered to the party interested, and shall be considered a sufficient permit by the commanding officer of the blockading force, or by the military officer in command of the port from which the exportation takes place. The military commander, or, in his absence, the commander of the blockading force, shall retain one of the copies of the order, for the purpose of transmission, as speedily as possible,

to the collector of customs at Callao, after having certified to the quantity of merchandise shipped. The other copy shall be returned to the party interested after the remarks written upon the one reserved have been copied thereon.

ART. VIII. The collector of customs at Callao, as soon as he shall receive the copy sent him by the military commander, or the commander of the blockading squadron, shall proceed to collect the duties on the goods, in case they have not yet been paid.

ART. IX. Any exports made in violation of the foregoing articles will subject the party making them to the penalties prescribed for the prevention and repression of smuggling.

Done at Lima, in the Government Hall, May 25, 1881.

P. LYNCH.

MANUEL DIAZ B., Secretary-General.

Of the condition of Peruvian commerce at the present time nothing more can be said than that it has reached the lowest ebb. Even the trade with Great Britain has been sensibly decreasing since 1878. The subjoined tabular statement will serve to show the value of the Peruvian exports to and imports from Great Britain during the decennial period embraced between 1871 and 1880:

YEARS.	Exports.	Imports.
	Soles.	Soles.
1871	19,559,840	10,798,850
1872	21,058,615	14,351,190
1873	26,097,860	12,623,110
1874	22,506,065	7,966,305
1875	24,420,905	7,972,495
1876	28,152,350	4,956,520
1877	23,482,510	6,331,970
1878	26,161,525	6,849,155
1879	16,942,660	8,737,135
1880	18,263,115	1,564,040

Of the total value of the exports for 1880, given in the foregoing table, 2,932,160 soles were for guano, which article, and nitrate and raw sugar, constitute the staple exports of the republic. The quantities and values of the guano shipments to Great Britain during the period just referred to were as follows:

YEARS.	Quantities.	Values.
	Tons.	Soles.
1871	142,365	8,555,880
1872	74,401	4,379,410
1873	138,895	8,614,270
1874	94,346	6,088,895
1875	86,842	5,342,850
1876	156,864	9,330,340
1877	111,835	6,875,140
1878	127,513	7,397,025
1879	44,325	2,404,635
1880	53,530	2,932,160

The exports of sugar in an unrefined state, small previous to 1869, have attained large proportions in recent years. From 2,560,560 soles in 1874, they rose in 1876 to the value of 4,963,995 soles, and in 1880 to 5,640,310 soles.

The following table shows the annual exports of nitrate of soda from Iquique (the principal port of the nitrate region), from 1830 to 1879, the value, per cwt., at Liverpool, in each year since 1847, inclusive, and the number of vessels annually engaged in the nitrate carrying trade:

YEARS.	Number of vessels.	Quintals, Spanish, of 100 pounds.	Price in Liverpool per cwt. of 112 pounds.
1830.....	4	18,700	s. d.
1831.....	12	40,385	.....
1832.....	15	52,500	.....
1833.....	26	92,700	.....
1834.....	36	147,800	.....
1835.....	39	140,399	.....
1836.....	45	158,584	.....
1837.....	33	165,369	.....
1838.....	31	129,610	.....
1839.....	36	149,576	.....
1840.....	45	227,362	.....
1841.....	52	275,488	.....
1842.....	65	359,918	.....
1843.....	67	369,317	.....
1844.....	74	380,191	.....
1845.....	70	376,239	.....
1846.....	66	390,143	.....
1847.....	70	383,997	11 0
1848.....	75	485,089	11 9
1849.....	69	430,102	13 9
1850.....	81	511,845	14 0
1851.....	89	699,406	13 3
1852.....	95	562,939	15 9
1853.....	124	866,241	13 3
1854.....	101	720,465	18 0
1855.....	121	936,888	18 0
1856.....	93	811,608	18 6
1857.....	123	1,095,833	18 0
1858.....	124	1,220,240	18 0
1859.....	140	1,570,243	15 3
1860.....	120	1,370,243	12 6
1861.....	113	1,358,691	13 9
1862.....	147	1,629,017	12 9
1863.....	144	1,540,963	14 6
1864.....	163	1,090,587	14 0
1865.....	200	2,442,459	12 6
1866.....	174	2,187,685	10 3
1867.....	199	2,550,327	10 6
1868.....	134	1,906,503	15 0
1869.....	133	2,507,052	15 0
1870.....	226	2,943,413	15 3
1871.....	255	3,605,906	16 3
1872.....	308	4,420,764	15 10
1873.....	417	6,263,767	14 2
1874.....	332	5,583,260	12 3
1875.....	427	7,191,114	11 9
1876.....	393	7,050,764	11 6
1877.....	240	4,521,654	14 0
1878.....	290	5,909,213	14 6
1879.....	103	2,065,350	14 3
Totals.....	6,614	81,910,019	.....

Thus the total quantity shipped in the thirty-three years from 1847 to 1879, inclusive, was 3,723,182 tons of 2,240 pounds each, at an average value of £14 6s. 8d. per ton, and an aggregate value of \$264,345,900 approximately. The rate of duty imposed on nitrate shipped from the port of Iquique from 1830 to 1873 was four cents per quintal; from the latter year to the end of 1880 it gradually rose to \$1.50 per quintal; and at the end of 1881 it was \$1.60 per metric quintal (of 100 kilogrammes).

The total length of the twenty-two railway lines open to traffic at the end of 1877 was 2,030 miles. Eleven of these lines belonged to the Government, eight were the property of private companies or individuals, and the three remaining lines were in part owned by the Government, and in part private property.

As recorded in the article PERU, in our volume for 1880, the Chilians, after their victory at Arica, set about preparing an expedition against Lima, for the avowed purpose of putting an end to the prolonged contest, "not by such

expedients as the conferences of Arica, which could give no positive result, but by striking the final blow in the very capital of the enemy." As soon as the army was raised to a strength sufficient, 26,000 Chilians, commanded by General Baquedano, began a campaign which culminated in the complete overthrow of the Peruvian army, and the occupation of the Peruvian capital by the victorious Chilean troops. Landing at Curuyaco early in January, 1881, the expedition at once proceeded to camp in front of the Peruvian army, which occupied the heights extending from Bella Vista to Monterico, under cover of parapets and ditches. At five o'clock, on the morning of the 13th, the first division, under Colonel Lynch, opened fire, and, the second soon following, the attack became general. A fierce fight of four hours ended in a victory for the Chilians. Yet another battle had to be fought, for some 8,000 Peruvians had concentrated in Chorrillos, whence they were "dislodged street by street." The town was completely destroyed. An armistice was now granted, at the request of the foreign ministers resident at Lima, but the Peruvians, again in position under cover of the fortifications at Miraflores, provoked another attack, and were routed and pursued to the suburbs of the capital. According to the report of the Chilean commander-in-chief, 25,000 Peruvians were beaten by half that number of Chilians at Chorrillos, and the number of the former at the commencement of the fight at Miraflores was 15,000. The Peruvian losses in the first of these two engagements "exceeded 7,000, with 1,500 prisoners, over 60 cannon and mitrailleuses, and a quantity of arms"; while the Chilean losses in both battles were estimated at but 600 killed and 2,060 wounded. Lima surrendered unconditionally, and was occupied by 4,000 Chilians on the 17th. Callao surrendered on the same day, and here virtually comes to an end the record of the military operations of this protracted struggle. Meantime Piérola, the Peruvian Dictator, had fled to Chocos, from which place he issued a pompous proclamation.

Piérola was credited with the design to protract the struggle by carrying the scene of hostilities to the mountainous regions, distant from the coast, and of difficult access for the Chilians. But these had no desire for the indefinite prosecution of guerrilla warfare, unpromising of glory or benefit. The main professed object for which they had pursued the conflict was not the conquest of Peru, but her destruction as a naval power, and her incapacitation for future intervention in Chilean affairs. That object attained, their further desires were limited to two requirements: the establishment of a permanent peace, and the payment to them of a war indemnity. The only present means of securing the latter being the occupation of the conquered territory, that it was resolved to continue indefinitely. With a view to obtain the first, a provisional government

was, as already recorded, organized, with Señor García Calderon at its head, and under the protection of the Chilian authorities, Calderon "pledging himself to conduct his government upon principles not opposed to the fundamental conditions demanded by Chili for the final arrangement of peace." The failure of this and other efforts to the same end is briefly stated in the following extract from a circular which the Minister of Foreign Affairs of Chili addressed to the diplomatic agents of the republic abroad, under date December 21, 1881.

Thus it is that Chili could not conclude a peace with Piérola, who, after his defeat at Miraflores, proved his inability to form a serious government outside of Lima, and finally fell, overthrown by the intrigues of Calderon and the rebellion of his soldiers; nor with García Calderon, who, lacking authority in the first period, and who, when beginning to acquire it, perverted it in the name of an intervention * irreconcilable with the honor and the sovereignty of nations such as Chili and the United States. The last acts of Calderon, his public declarations against the capital conditions of peace, and the abuse against Chili and Peru of which he was guilty in encouraging a supposed foreign intervention, obliged our military authorities to make an end of the attempt at government made by García Calderon in February last.

On learning that Montero had adhered to the Arequipa and Puno declaration in favor of Calderon, the Chilian Government ordered the arrest of Calderon and his minister, Galvez, who accordingly were taken to Valparaiso in November. Piérola, abandoned by Montero (then in Cajamarca in the north), and probably also by Cáceres, who had been appointed by the Arequipa Congress second Vice-President of the Republic, Montero being the first, returned to Lima, and publicly declared his intention to renounce all further pretensions to power (December). Señor Don Adolfo Guerrero, late secretary to General Lynch, had been appointed political chief of Lima. As announced in President Arthur's message to Congress in December, special envoys were sent to Peru and Chili "with instructions which it is hoped will bring these powers into friendly relations." These envoys, Messrs. Blaine and Trescott, arrived at Callao on December 22d. It was presumed that Mr. Blaine would, on reaching Santiago, take charge of the United States legation left vacant by the death of General Kilpatrick.

The part played by Bolivia in the long contest is little short of inexplicable. The declaration of war was the outgrowth of a quarrel between Chili and Bolivia, about the ownership of a strip of desert. Peru not only took sides with Bolivia, but actually threw out the challenge to Chili, and, with little effective aid from Bolivian contingents, has borne the brunt of the war, and expiated her folly with her ruin; while Bolivia, save the almost inevitable sacrifice of her sea-board, undoubtedly damaging to her commercial interests, will have sustained no serious losses, territorial or financial.

* See the article PERU, CHILI, AND THE UNITED STATES, in this volume.

PERU, CHILI, AND THE UNITED STATES. After the failure of the peace conference held on board the United States steamship Lackawanna at Arica, on October 22, 25, and 27, 1880, in pursuance of the offer by this Government of its good offices as an arbitrator between the belligerents, there is nothing of note to record on diplomatic relations with the Republics of Peru and Chili, until June 26, 1881, when, in accordance with instructions from Secretary Blaine, Minister Christiancy formally recognized the government of the Provisional President, Señor García Calderon. In July Minister Christiancy presented his letters of recall, and on the same day the new Minister, General Stephen A. Hurlbut, presented his credentials to President Calderon at the little village of Magdalena, Lima being then in the hands of the Chilians. On the 23d of August, Aurelio García y García, Minister of Foreign Affairs under Piérola, addressed to Minister Hurlbut a letter dated "The Ministry, Ayacucho," a town in the interior, where Piérola had set up the semblance of a government after his flight from Lima. The purpose of this letter was to persuade General Hurlbut to recognize Piérola as "the constitutionally proclaimed President" and lawful head of the government in Peru. In reply our Minister assured Señor García y García that it would scarcely become him to enter into a discussion upon the internal affairs of Peru, "but," continued he, "as in your letter to me you have opened the road to such discussion, I propose frankly to express my opinion, so wording it as to wound as lightly as possible." He then points out that in seizing the supreme power and assuming an authority unknown to the Constitution, Piérola committed revolutionary and lawless acts. The resolution he carried out was "a crime against liberty"; the dictatorship was "a tyranny which was autocratic and despotic in its construction, its title, and its acts." Minister Hurlbut's letter continued as follows:

Oppressed by an invader, the populace of Peru submitted to that autoeracy in the belief that it would conduct to victory. Foreign nations recognized it as a *de facto* government, but they never recognized its origin or its system. Under the Constitution the Ayacucho National Assembly has no right to exist, and its resolutions possess no legal power beyond that of the opinions uttered by an equal number of private citizens. Consequently, its confirmation of the full and autocratic faculties of the ex-dictator, under his new title of President, gives no greater legal weight to his authority or pretensions.

For this reason, and much to my regret, I find myself compelled to inform you that the decrees are barbarous and inhuman which have been recently issued in Ayacucho with respect to the persons and properties of those who do not recognize Señor Piérola, and they place the government which adopts such measures beyond the pale of the law. These unnatural decrees, in my opinion, afford conclusive proof that the government with which you are connected owes its existence entirely to force and not to public opinion. The government presided over by Señor García Calderon does not pretend to be regularly and perfectly established. It is provisional. It is sup-







H B Hall, Jr

J. G. Raine

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* Annual Catalogue for 1873

ported by the national Congress, which is a body recognized by the Constitution, and is an effort toward the re-establishment in the country of a regular and constitutional government. You are mistaken when you say "the Chilians sympathize with it." No such thing. It desires peace in common with the whole country, but it will not sacrifice the national honor nor will it cede territory in order to obtain it. Chili desires and asks for Tarapaca, and it will recognize the government which agrees to its cession. The Calderon government will not cede it. It remains to be seen whether that of Piérola will prove more pliable.

Meanwhile, under the system inaugurated in Ayacucho and carried into practice by the prefects, the Peruvians themselves are worse enemies of the Peruvians than are the Chilians, and the efforts of the friends of Peru are paralyzed by their internal dissensions. When the United States asks Chili why it does not arrange peace, the answer is given that in Peru there is no government with which to treat. Would it not be better to put an end to this state of affairs, and that all true Peruvians should unite to support a chief of the state whom all parties and factions would join in supporting for the purpose of saving the country from imminent ruin, restoring peace, and the orderly and pacific reign of the Constitution and laws?

S. A. HURLBUT.

A. GARCIA Y GARCIA, Esq., Ayacucho.

The first public intimation of the views of our Government in regard to the ineffective negotiations for peace between President Calderon and the Chilian representatives was conveyed in the following communication from Minister Hurlbut to General Patrick Lynch, commander of the Chilian forces in Peru, sent in September, and here given in a translation from the Spanish original:

MR. ADMIRAL: With the object of preventing any misunderstanding as to the conversation I held yesterday with you in regard to the existing state of affairs between Peru and Chili, I thought it would be better to put in writing what I then stated. Without referring to the cause of the war, I understand the opinion of my Government to be, that all the legitimate objects of the war were realized by the disastrous defeat of the Peruvian armies, the capture or destruction of its vessels, and the occupation of the capital and all the coast. When all organized and formidable resistance has disappeared, the state of war should cease. The victory of Chili is so complete that peace is a necessity for the national existence of Peru, and it is to the interest of both countries to adjust a peace as speedily as possible. Commerce and the rights of neutrals have suffered enough, and the large interest owned in Peru by foreigners (many of whom are Americans) should not, for a longer time, be exposed to an unnecessary prolongation of the war. I must also declare that, although the United States recognize all the rights acquired by the conqueror in accordance with the law of civilized warfare, they disapprove of war which has territorial aggrandizement in view, or the violent dismemberment of a country, unless as a last resource, and in consequence of supreme emergency. As a frontier question has never arisen between Peru and Chili, because the two countries do not adjoin, and because Chili has publicly and officially repeatedly denied any intention or design to forcibly annex territory, we are clearly of the opinion that such a proceeding now would be incompatible with the dignity and public faith of Chili, and that it would be calamitous to the future tranquillity of both countries, perpetuating a serious grievance which would constantly lead to trouble. The United States admit as a principle of public right that Chili possesses the right (in consonance with the code of war) to a complete indemnity for the costs of the war, and that Peru should pay such indemnity as might be agreed on by the two parties, or determined by

disinterested arbitration, in the event of disagreement and such means becoming necessary, should a time be stipulated for the payment. But we are also openly of the opinion that Peru should have the opportunity, with full and free discussion of the terms of peace, of offering said indemnity in a satisfactory shape, and that it is contrary to the rules which should prevail among civilized nations to proceed at once, and as a *sine qua non* condition, to incorporate into Chilian jurisdiction territory which is undoubtedly Peruvian, without having previously proved the incapacity or unwillingness of Peru to meet the indemnity in some other form. Such conduct on the part of Chili would meet with the most decided disapprobation on the part of the United States. We are, therefore, of the opinion that the act of taking possession of Peruvian territory and annexing it to Chili, whether it be executed simply by force of arms or similarly dictated as an imperative condition of a cessation of hostilities, in open contradiction to former declarations of Chili in this respect, will be justly considered by other nations as an evident sign that Chili has adopted an aggressive and conquering policy for the purpose of territorial aggrandizement. The United States desires, above all things, that peace should exist among the South American republics, and that commerce and industry should jointly serve to the development of their wondrous resources, to their advantage and to the benefit of the world at large; and we can not see any good reason why the state of war should be further prolonged, to the serious detriment of such rightful interests, nor can we see any well-founded cause why peace, under just conditions, should not be brought about, within a short time, without any unnecessary humiliation on the one part, and to the entire satisfaction of all legitimate claims on the other.

S. A. HURLBUT.

To Rear-Admiral the Hon. PATRICK LYNCH.

The publication of this memorandum occasioned no little excitement on the west coast. Among Peruvians it was believed to portend a forcible interference in their behalf by the United States, and the wildest rumors were soon afloat. By Chilians, on the contrary, Minister Hurlbut's letter was condemned as undiplomatic and improper in form and unwarrantable in tone. The excitement extended to official circles, and Señor J. M. Balmaceda, the Minister of Foreign Affairs in Santiago, addressed a note on the subject to General Kilpatrick, the United States Minister to Chili. The Chilian Minister expressed his opinion that the declarations of Mr. Hurlbut's memorandum were not the "expression of the circumspect, noble, and loyal policy which the United States have observed toward the belligerents in the Pacific. . . . The strange publicity given to Mr. Hurlbut's document," the Minister further stated, "compels me to direct myself to your Excellency in order to obtain an answer which shall officially re-establish the truth and the sincerity of the relations which our respective governments honorably cultivate. The speech which Mr. Hurlbut pronounced on presenting his credentials to the now extinct Government of Garcia Calderon; the memorandum directed to Admiral Lynch, when diplomatic matters were not under discussion; his well-known letter against Piérola, to whom Mr. Christianity was accredited, and whose plenipotentiaries debated in Arica, in presence and with full consent of the United States, may tend to produce

deplorable perturbation, and to inspire the enemy with vain hopes, or to promote resistance which can not effect the end of the war, but must render it more sanguinary." In reply, General Kilpatrick categorically contradicted his Lima colleague. He wrote:

In the first place, allow me, your Excellency, to assure you in the most emphatic manner that the Chilean Government has nothing to fear either from the intentions or the attitude my Government will assume with respect to the war in the Pacific. The Government of the United States has never interfered officiously in the affairs of other countries, even when its own interests were compromised, and much less would it do so when only the interests are involved of friendly nations, with respect to which no motive can exist which should lead us to favor either one or the other of them. I had read the memorandum of Mr. Hurlbut, also the speech delivered by him at his reception by President Garcia Calderon, both documents having been forwarded to me from Lima, and by me at once brought to the knowledge of my Government. The first of these documents can not be considered of official or diplomatic character, as its author remarks in the note of which your Excellency forwards me a copy. The instructions given me by my Government are certainly the same as those sent to Mr. Hurlbut, and it can be affirmed with certainty that they do not coincide in their spirit with that which predominates in the document referred to by your Excellency. The instructions from Mr. Blaine, the Secretary of State, can not bear a double meaning, and so certain is this, and such confidence was felt in the intelligence, justice, and generosity of the Government of Chili, that I was authorized to place them before his Excellency the President of this Republic, or his Ministers, if a moment should arrive when I might deem it advisable so to do. In order to dispel all doubts from the mind of your Excellency as to the attitude of my Government respecting the conditions of peace between Chili and Peru, and its determination not to interfere in the question, I have no hesitation in here copying a paragraph from those instructions, and which runs as follows: "Since the Arica conference closed, the war has terminated with the complete success of Chili, and with what may be considered little less than the conquest of Peru. This Government can not persuade itself to believe that the offer of friendly intervention in the question now pending would be agreeable to the Chilean Government. But I am certain that Government will appreciate the natural and profound interest which the United States feels in the termination of a situation which is so calamitous in its consequences to the best interests of the South American republics. The Government of Chili should also be aware that, if at any time the interposition of the good offices of this Government can contribute to the re-establishment of friendly relations, the United States would promptly offer such interposition on the desire for such being manifested." These instructions also say: "In all conversations connected with this matter which may be held with members of the Government of Chili, you must conform to the known ruling of international law, and that under no circumstances shall you officially offer any advice to the Government of Chili which shall not previously have been solicited by it." Another clause refers to the provisional government of Señor Garcia Calderon, which the Washington Cabinet hoped to see established, and instructs me to encourage it only in a manner becoming the dignity and neutrality of a plenipotentiary without interfering in any manner which might appear officious. It appears to me that these extracts from the instructions given me by my Government will suffice to convince your Excellency that there is no intention on the part of my Government to interfere arbitrarily in the contest in the Pacific, and that its actions and conduct proceed from a friendly nation, which endeavors to act in the most delicate manner. I con-

sequently trust that the Government of your Excellency will continue to retain faith in the ancient and traditional policy of the United States, whose friendship has been of so many years' duration, and which never was more faithful nor intimate than at present.

The republication in this country of the memorandum addressed by Minister Hurlbut to General Lynch and General Kilpatrick's letter to Señor Balmececa, together with the intimation that Mr. Hurlbut was preparing a rejoinder to the statements in General Kilpatrick's letter which reflected on him, furnished the text for a large number of newspaper articles, in which both ministers were severely censured for the unseemly controversy in which they had engaged. In order that the public might understand the relation of the State Department to a dispute in which the consistency and harmony of its instructions to our Ministers in South America had been called in question, Secretary of State Blaine, on December 11th, furnished for publication copies of the following documents, of which only unessential portions are here omitted:

I.

DEPARTMENT OF STATE, }
WASHINGTON, May 9, 1881. }

I. P. Christianity, Esq., etc., Lima.

SIR: In your last dispatch you informed this department that the Chilean Government refused absolutely to recognize General Piérola as representing the civil authority in Peru, and that Señor Calderon was at the head of a Provisional Government. If the Calderon Government is supported by the character and intelligence of Peru, and is really endeavoring to restore constitutional government, with a view both to domestic order and negotiation with Chili for peace, you may recognize it as the existing Provisional Government, and render what aid you can by advice and good offices to that end. Mr. Elmore has been received by me as the confidential agent of such Provisional Government. JAMES G. BLAINE.

[NOTE.—In pursuance of the above, Mr. Christianity, on June 26th, formally recognized the Calderon Government several weeks in advance of the arrival of General Hurlbut.]

II.

DEPARTMENT OF STATE, }
WASHINGTON, June 15, 1881. }

Stephen A. Hurlbut, Esq., etc.

SIR: The deplorable condition of Peru, the disorganization of its government, and the absence of precise and trustworthy information as to the state of affairs now existing in that unhappy country, render it impossible to give you instructions as full and definite as I would desire. Judging from the most recent dispatches from our Ministers, you will probably find, on the part of the Chilean authorities in possession of Peru, a willingness to facilitate the establishment of the Provisional Government which has been attempted by Señor Calderon. If so, you will do all you properly can to encourage the Peruvians to accept any reasonable conditions and limitations with which this concession may be accompanied. It is vitally important to Peru that she be allowed to resume the functions of a native and orderly government, both for the purposes of internal administration and the negotiation of peace. To attain this end it would be far better to accept conditions which may be hard and unwelcome, than, by demanding too much, to force the continuance of the military control of Chili. It is hoped that you will be able, in your necessary association with the Chilean authorities, to impress upon them that the more liberal and considerate their policy, the surer it will be to obtain a lasting and satisfactory settlement.

. . . The United States can not refuse to recognize the rights which the Chilean Government has acquired by the successes of the war, and it may be that a cession of territory will be a necessary price to be paid for peace. It would seem to be injudicious for Peru to declare that under no circumstances could the loss of territory be accepted as the result of negotiation. The great objects of the provisional authorities of Peru would seem to be to secure the establishment of a constitutional government, and, next, to succeed in the opening of negotiations of peace, without the declaration of preliminary conditions as an ultimatum on either side. It will be difficult perhaps to obtain this from Chili, but, as the Chilean Government has distinctly repudiated the idea that this was a war of conquest, the Government of Peru may fairly claim the opportunity to make propositions of indemnity and guarantee before submitting to a cession of territory. As far as the influence of the United States will go in Chili, it will be exerted to induce the Chilean Government to consent that the question of cession of the territory should be the subject of negotiation, and not the condition precedent upon which alone negotiation shall commence.

If you can aid the Government of Peru in securing such a result, you will have rendered the service which seems most pressing. Whether it is in the power of the Peruvian Government to make any arrangements at home or abroad, singly or with the assistance of friendly powers, which will furnish the necessary indemnity or supply the required guarantee, you will be better able to advise me after you have reached your post. As you are aware, more than one proposition has been submitted to the consideration of this Government, looking to a friendly intervention by which Peru might be enabled to meet the conditions which would probably be imposed. Circumstances do not seem at present opportune for such action; but if, upon full knowledge of the condition of Peru, you can inform this Government that Peru can devise and carry into practical effect a plan by which all the reasonable conditions of Chili can be met without sacrificing the integrity of Peruvian territory, the Government of the United States would be willing to tender its good offices toward the execution of such a project. As a strictly confidential communication, I inclose you a copy of instructions sent this day to the United States Minister at Santiago. You will thus be advised of the position which this Government assumes toward all the parties to this lamentable conflict. . . .

JAMES G. BLAINE.

III.

DEPARTMENT OF STATE, }
WASHINGTON, June 15, 1881. }

Judson Kilpatrick, Esq., etc.

SIR: The unfortunate condition of the relations between Chili and Peru make the mission upon the duties of which you are now entering one of grave responsibility and great delicacy. Difficult as would be any intervention of the United States under ordinary circumstances, our position is further embarrassed by the failure of the conference at Arica, undertaken at our suggestion. It is evident from the protocols of that conference that Chili was prepared to dictate and not to discuss terms of peace, and that the arbitration of the United States upon any questions of difference with the allied powers of Peru and Bolivia was not acceptable and would not be acceptable by the Chilean Government. Since that time the war has closed in the complete success of Chili, and in what can scarcely be considered less than the conquest of Peru and Bolivia. . . . But I am sure the Chilean Government will appreciate the natural and deep interest which the United States feels in the termination of a condition so calamitous in its consequences to the best interests of all the South American republics. It should also know that, if at any time the interposition of the good offices of this Government can contribute to the restoration of friendly relations between the belligerent powers, they will, upon proper intimation, be

promptly offered. While, therefore, no instructions are given you to tender officially any advice to the Government of Chili which is unsought, you will, on such opportunity as may occur, govern your conduct and representations by the considerations to which I shall now call your attention.

Without entering upon any discussion as to the causes of the late war between Chili on the one side and Peru and Bolivia on the other, this Government recognizes the right which the successful conduct of that war has conferred upon Chili, and in doing so I will not undertake to estimate the extent to which the Chilean Government has the right to carry its calculation of the indemnities to which it is entitled, nor the security for the future which its interests may seem to require. But, if the Chilean Government, as its representatives have declared, seeks only a guarantee of future peace, it would seem natural that Peru and Bolivia should be allowed to offer such indemnity and guarantee before the annexation of territory, which is the right of conquest, is insisted upon. If these powers fail to offer what is a reasonably sufficient indemnity and guarantee, then it becomes a fair subject of consideration whether such territory may not be exacted as the necessary price of peace. But at the conclusion of a war, avowedly not of conquest but for the solution of differences which diplomacy had failed to settle, to make the acquisition of territory a *sine qua non* of peace, is calculated to cast suspicion on the professions with which war was originally declared. It may very well be that at the termination of such a contest the changed condition and relation of all the parties to it may make readjustment of boundaries or territorial changes wise as well as necessary; but this, where the war is not one of conquest, should be the result of negotiation and not the absolute preliminary condition on which alone the victor consents to negotiate. At this day, when the right of the people to govern themselves, the fundamental basis of republican institutions is so widely recognized, there is nothing more difficult or more dangerous than the forced transfer of territory, carrying with it an indignant and hostile population, and nothing but a necessity, proved before the world, can justify it. It is not a case in which the power desiring the territory can be accepted as a safe or impartial judge.

While the United States Government does not pretend to express an opinion whether or not such an annexation of territory is a necessary consequence of this war, it believes that it would be more honorable to the Chilean Government, more conducive to the security of a permanent peace, and more in consonance with those principles which are professed by all the republics of America that such territorial changes should be avoided as far as possible; that they should never be the result of mere force, but, if necessary, should be decided and tempered by full and equal discussion between all the powers whose people and whose national interests are involved. At the present moment the completeness of the victory of Chili seems to render such a diplomatic discussion impossible. The result of the conflict has been not only the defeat of the allied armies, but the dissolution of all responsible government in Peru. Its soil is occupied, the collection of its revenues transferred to the conqueror, and its executive, legislative, and judicial functions are in abeyance. It can neither enforce order within nor assure peace without. An effort, and apparently a very earnest and honest one, has been made to create a provisional government which shall gradually restore order and the reign of law. But it is obvious that, for such a government to succeed in obtaining the confidence, either of its own people or of foreign powers, it must be allowed a freedom and force of action which can not be exercised while Chili holds absolute possession and governs by military authority. This Government, therefore, has been glad to learn from its Minister in Chili, whom you succeed, that the Chilean authorities have decided to give their support to the efforts of Señor Calderón to establish on a steady foot-

ing a provisional government in Peru. You will, as far as you can do so with propriety, and without officious intrusion, approve and encourage this disposition on the part of the Chilean Government, and this department will be exceedingly gratified if your influence, as the representative of the United States, shall be instrumental in inducing the Government of Chili to give its aid and support to the restoration of regular constitutional government in Peru, and to postpone the settlement of all questions of territorial annexation to the diplomatic negotiations which can then be resumed with the certainty of a just, friendly, and satisfactory conclusion.

In any representation which you may make you will say that the hope of the United States is that the negotiations for peace shall be conducted and the final settlement between the two countries determined without either side invoking the aid or intervention of any European power. The Government of the United States seeks only to perform the office of a friend to all the parties in this unhappy conflict between South American republics, and it will regret to be compelled to consider how far that feeling might be affected, and a more active interposition forced upon it by any attempted complication of this question with European politics. If at any time you shall judge it expedient and advantageous to read this dispatch to the Minister of Foreign Affairs, you are authorized to do so. The decision on this point is left to your discretion.

JAMES G. BLAINE.

In his annual message to Congress, President Arthur spoke of our relations with the west coast republics in the following terms:

This Government sees, with great concern, the continuance of the hostile relations between Chili, Bolivia, and Peru. An early peace between these republics is much to be desired, not only that they themselves may be spared further misery and bloodshed, but because their continued antagonism threatens consequences which are, in my judgment, dangerous to the interests of republican government on this continent, and calculated to destroy the best elements of our free and peaceful civilization. As in the present excited condition of popular feeling in these countries there has been serious misapprehension of the position of the United States, and as separate diplomatic intercourse with each through independent ministers is sometimes subject, owing to the want of prompt reciprocal communication, to temporary misunderstanding, I have deemed it judicious at the present time to send a special envoy, accredited to all and each of them, and furnished with general instructions, which will, I trust, enable him to bring these powers into friendly relations.

The special envoy alluded to by the President was Mr. William H. Trescot, of South Carolina, who sailed from New York for Panama on December 3d, accompanied by Mr. Walker Blaine, son of the Secretary of State. Reaching Lima in due time, they remained there several days, and on Christmas-day sailed from the neighboring port of Callao for Santiago. On December 12th the following dispatches from Secretary Blaine to our Ministers at Lima and Santiago were given to the press:

I.

DEPARTMENT OF STATE,
WASHINGTON, November 22, 1881. }

To Stephen A. Hurlbut, Esq., etc., Lima.

SIR: Your dispatches to No. 23, inclusive, have been received, and I learn with regret that a construction has been put upon your language and conduct indicating a policy of active intervention on the part of this Government beyond the scope of your instructions. As those instructions were clear and ex-

plicit, and as this department is in the possession of no information which would seem to require the withdrawal of the confidence reposed in you, I must consider this interpretation of your words and acts as the result of some strange and perhaps prejudiced misconception. My only material for forming an opinion consists of your memorandum to Admiral Lynch, your letter to Señor García, the secretary of General Piérola, and the convention with President Calderon, ceding a naval station to the United States. I would have preferred that you should hold no communication with Admiral Lynch on questions of a diplomatic character. He was present as a military commander of Chilean forces, and you were accredited to Peru. Nor do I conceive that Admiral Lynch, as the commander of the Chilean army of occupation, had any right to ask or receive any formal assurance from you as to the opinions of your Government.

The United States was represented in Chili by a properly accredited minister, and from his own Government the admiral could and ought to have received any information which it was important for him to have. It was to be expected, and even desired, that frank and friendly relations should exist between you; but I can not consider such confidential communication as justifying a formal appeal to your colleague in Chili for the correction or criticism of your conduct. If there was anything in your proceedings in Peru to which the Government of Chili could properly take exception, a direct representation to this Government through the Chilean Minister here was due both to the Government and to yourself.

Having said this, I must add that the language of the memorandum was capable of not unnatural misconstruction. While you said nothing that may not fairly be considered warranted by your instructions, you omitted to say with equal emphasis some things which your instructions supplied, and which would, perhaps, have relieved the sensitive apprehensions of the Chilean authorities. For, while the United States would unquestionably "regard with disfavor" the imperious annexation of Peruvian territory as the right of conquest, you were distinctly informed that this Government could not refuse to recognize that such annexation might become a necessary condition in a final treaty of peace. And the main purpose of your effort was expected to be, not so much a protest against any possible annexation as an attempt by friendly but unofficial communications with the Chilean authorities (with whom you were daily associated) to induce them to support the policy of giving to Peru, without the imposition of harsh and absolute conditions precedent, the opportunity to show that the rights and interests of Chili could be satisfied without such annexation. There is enough in your memorandum, if carefully considered, to indicate this purpose, and I only regret that you did not state it with a distinctness and, if necessary, with a repetition which would have made impossible anything but the most willful misconception.

As at present advised, I must express disapproval of your letter to Señor García, the secretary of General Piérola. I think that your proper course in reference to García's communication would have been either entirely to ignore it as claiming an official character which you could not recognize, or, if you deemed that courtesy required a reply, to state that you were accredited to the Calderon Government, and could, therefore, know no other, and that any communication which General Piérola thought it his duty or interest to make must be made directly to the Government at Washington. You had no responsibility in the matter, and it was injudicious to assume any. The recognition of the Calderon Government had been duly considered and decided by your own Government, and you were neither instructed nor expected to furnish General Piérola or the Peruvian public with the reasons for that action. The following language in your letter to Señor García might be misunderstood: "Chili desires and asks for Tara-

paca, and will recognize the Government which agrees to its session. The Calderon Government will not cede it. It remains to be seen whether that of Piérola will prove more pliable." It might easily be supposed, by an excited public opinion on either side, that such language was intended to imply that the Government of the United States had recognized the Government of Calderon because of its resolution not to cede Peruvian territory. No such motive has ever been declared by this Government. The Government of Calderon was recognized because we believed it to be to the interest of both Chili and Peru that some respectable authority should be established which could restore internal order and initiate responsible negotiations for peace. We desired that the Peruvian Government should have a fair opportunity to obtain the best terms it could, and hoped that it would be able to satisfy the just demands of Chili without the painful sacrifice of the national territory. But we did not make, and never intended to make, any special result of the peace negotiations the basis of our recognition of the Calderon Government. What was best and what was possible for Peru to do we were anxious to the extent of our powers to aid her in doing by the use of whatever influence or consideration we enjoyed with Chili; further than that the Government of the United States has as yet expressed neither opinion nor intention.

I must also express the dissatisfaction of the department at your telegram to the Minister of the United States near the Argentine Confederation, suggesting that a Minister be sent by that Government to Peru. This would have been clearly without the sphere of your proper official action at any time, but, as there then existed a serious difference between Chili and the Argentine Confederation, you might naturally have anticipated that such a recommendation would be considered by Chili as an effort to effect a political combination against her. The United States was not in search of alliances to support a hostile demonstration against Chili, and such an anxiety might well be deemed inconsistent with the professions of an impartial mediation.

As to the convention with regard to a naval station in the Bay of Chimbole, I am of opinion that, although it is a desirable arrangement, the time is not opportune. I would be very unwilling to ask such a concession under circumstances which would almost seem to impose upon Peru the necessity of compliance with our request; and I have no doubt that, whenever Peru is relieved from present embarrassment, she would cheerfully grant any facilities which our naval or commercial interests may require. Nor, in the present excited condition of public opinion in Chili, would I be willing to afford evil-disposed persons the opportunity to intimate that the United States contemplated the establishment of a naval rendezvous in the neighborhood of either Peru or Chili. The very natural and innocent convenience which we require might be misunderstood or misapprehended; and, as our sole purpose is to be allowed, in a spirit of the most impartial friendship, to act as mediator between these two powers, I would prefer, at present, to ask no favors of the one, and to excite no possible apprehensions in the other.

Having thus stated with frankness the impression made upon the department by such information as you have furnished it, it becomes my duty to add that this Government is unable to understand the abolition of the Calderon Government, and the arrest of President Calderon himself, by the Chilian authorities, or, I suppose I ought to say, by the Chilian Government, as the Secretary for Foreign Affairs of that Government has, in a formal communication to Mr. Kilpatrick, declared that the Calderon Government "was at an end." As we recognized that Government, in supposed conformity with the wishes of Chili, and as no reason for its destruction has been given us, you will still consider yourself accredited to it, if any legitimate representative exists in the place of President

Calderon. If none such exists, you will remain in Lima until you receive further instructions, confining your communications with the Chilian authorities to such limits as your personal convenience and the maintenance of the rights and privileges of your legation may require.

The complicated condition of affairs resulting from the action of the Chilian Government, the time required for communication between the legations in Chili and Peru and this department, and the unfortunate notoriety which the serious differences between yourself and your colleague in Chili have attracted, have, in the opinion of the President, imposed upon him the necessity of a special mission. This mission will be charged with the duty of expressing the views of the President upon the grave condition of affairs which your dispatches describe, and, if possible, with due consideration of the rights, interests, and responsibilities of both nations, to promote a settlement which shall restore to the suffering people of Peru the benefits of a well-ordered government, deliver both countries from the miseries and burdens of a protracted war, and place their future relations upon a foundation that will prove stable, because just and honorable.

I am, sir, your obedient servant,

JAMES G. BLAINE.

II.

DEPARTMENT OF STATE, }
WASHINGTON, November 22, 1881. }

Judson Kilpatrick, Esq., etc., Santiago.

SIR: Your dispatch, No. 8, conveying a copy of your reply to Señor Balmaseda has been received. The communication to which it was a reply should have accompanied it, in order that the department could properly judge of your answer. Your letter is not approved by the department. You had had ample opportunity, and, as you have before stated, availed yourself of it, to make known to the Government of Chili the scope of your instructions, and to give it abundant assurance of the friendly disposition of your own Government. If the conduct of Mr. Hurlbut in Peru had given sufficient ground for complaint to the Chilian Government, that complaint should have been made in Washington. Mr. Hurlbut's presentation speech to President Calderon, his memorandum to Admiral Lynch, his letter to Garcia, and telegraphic reports from Buenos Ayres, were not subjects upon which you were called to pass judgment, nor upon which you should have been interrogated by the Chilian Government. Nothing in your conduct or language had excited its apprehensions, and no explanation was due, or could have been expected from you, of the language or conduct of your colleague in Peru. I should have been glad if it had occurred to you to call the attention of the Secretary of Foreign Affairs to the impropriety of such a communication, and in referring to the fact that your instructions, which you were authorized to communicate to him, gave all the assurance which he could either desire or ask of the friendly feeling of the United States. I should have much preferred that you had furnished him with a copy of those instructions, instead of submitting a paraphrase which does not fully represent their spirit and meaning. Indeed, I find it difficult to understand how the Chilian Government could have been under any misapprehension as to the disposition or purpose of the United States, when the instructions both to yourself and to Mr. Hurlbut had, in fact, been already frankly communicated—the former, according to your dispatch No. 3, to the outgoing Administration; and the latter, by this department to Mr. Martinez, the representative of the present Government in Washington. It is still more difficult to understand the abolition of the Calderon Government, and the arrest of the President himself, in the face of your assurance, in your dispatch No. 3, where you quote the following as having been addressed to you by Señor Valderana, to wit: "You are, therefore, authorized to say to your Government that every effort will be given

by Chili to strengthen the Government of President Calderon, giving to it the most perfect freedom of action considering the Chilian occupation; that no question of territorial annexation will be touched until a constitutional government can be established in Peru, acknowledged and respected by the people, with full powers to enter into diplomatic negotiations for peace." And it would only have been natural if you had asked, for the information of your Government, if not for your own, for what reasons and by what means the Calderon Government had, as Señor Balmaseda informed you, "come to an end." The President has learned, with great regret, of the arrest and removal of President Calderon; but, in the present state of his information, he will not undertake to measure its significance. He hopes that he will, when the facts are better known, be relieved from the painful impression that it was intended as a rebuke to the friendly disposition of the United States. . . . You will inform the Chilian Government that a special envoy will be immediately sent; and you will assure that Government that he will come in the spirit of impartial friendship, anxious to learn that recent occurrences have not been intended to disturb the long-continued friendly relations existing between us; and instructed by the President to lay before the Chilian Government frankly, but with a scrupulous consideration for the rights and interests of that Government, the views which he holds upon the deplorable condition of affairs in South America, a condition now fast assuming proportions which make its settlement a matter of concern to all the republics of the continent. He sincerely hopes that no other action of that Government will tend to further complicate existing difficulties before the arrival of that special envoy.

JAMES G. BLAINE.

It was on Sunday, November 6th, that President Calderon was arrested by General Lynch's orders, and taken on board the Chilian frigate Cochran, in the harbor of Callao. A few days later, while Vice-President Montevideo was actively asserting his claims to the supreme power, Minister Hurlbut issued the following declaration:

To the Notables of Lima.

GENTLEMEN: At your request I make the following declaration:

1. The United States of America are firmly in favor of the cessation of hostilities between Chili and Peru, and the prompt re-establishment of peace.

2. The United States of America decidedly oppose all dismemberment of Peru, except with the free and full consent of the nation.

3. They are of opinion that Chili has acquired, as the result of the war, the right to a war indemnity, and that Peru can not refuse such payment.

The Government of Chili knows that these are the ideas of the United States; but the divisions which exist in Peru paralyze the good offices of the United States, and give a pretext to Chili to elude the action of the United States in conformity with our desires, and to prolong the state of war and the military occupation of Peru. Chili says, "We also desire peace, but there is no one here competent to arrange it." This declaration is, unfortunately, true. For this state of affairs, the only remedy is to be found in Peru itself.

Union, under whomsoever may be elected, will destroy the pretext of Chili, and give to the United States an advantage which they require, and of which they will know how to take advantage.

In my opinion, nothing else will save the country from an indefinite military occupation by Chili.

Peru must save itself, by the sacrifice of personal ambitions on the altar of the redemption of the country.

S. A. HURLBUT.

On the 26th day of January, 1882, the President sent to Congress the diplomatic correspondence concerning Peru, Chili, and Bolivia, for a period of several years. The following are the more important dispatches. On December 1, 1881, Mr. Blaine wrote the following instructions to Special Envoy Trescott, of South Carolina, who sailed from New York for Panama on December 3d, accompanied by Mr. Walker Blaine:

SIR: While the circumstances under which the President has deemed it proper to charge you with a special mission to the Republics of Chili, Peru, and Bolivia render it necessary that very much must be confided to your discretion, it is desirable that you should be placed in full possession of his views as to the general line of conduct which you will be expected to pursue. For this purpose it is not necessary at present to go further back in the history of the unfortunate relations between Chili on the one hand and Peru and Bolivia on the other than the time when the defeat of General Piérola, his abandonment of the capital and the coast, and their occupation by the Chilian army, seem to have put an end to all responsible native government in Peru. Lima, having been surrendered January 19, 1881, Piérola driven across the mountains, the Chilian military occupation consolidated, and the Chilian Government refusing to recognize Piérola as representing the Government of Peru, it became absolutely necessary that some government should be established if Peru was not to remain simply a military district of Chili. On February 25, 1881, Mr. Christianey, the United States Minister at Lima, wrote this department as follows:

"A movement has therefore been initiated among some of the leading citizens of Lima and Callao, and encouraged by the Chilian authorities, to establish a new government in opposition to that of Piérola (who is still at Tacna or Yarija)."

From this date, Mr. Christianey kept the department informed of the probabilities of the establishment of the Calderon Government, so called from the name of the eminent Peruvian statesman who had been chosen as President. On May 9, 1881, instructions had been sent to him from the department, in which he was told:

"If the Calderon Government is supported by the character and intelligence of Peru, and is really endeavoring to restore constitutional government, with a view both to order within and negotiation with Chili for peace, you may recognize it as the existing provisional government and render what aid you can by advice and good offices to that end."

Acting under these instructions, although with some expressed doubt as to the probable permanence of its existence, Mr. Christianey, on June 26, 1881, formally recognized the Calderon Government. It is clear that this recognition was not an unfriendly intervention as far as the wishes and interests of Chili were concerned.

In giving the support of recognition to the Calderon Government, therefore, so far was this Government from doing what could be considered an unfriendly act to Chili, that it was, in fact, giving its aid to the very policy which Chili avowed, and which, in the opinion of competent judges, was the only method of reasonable solution. And this conclusion of the Government was strengthened and confirmed by the information which was transmitted to the department by General Kilpatrick, the United States Minister to Chili. General Kilpatrick was appointed after the recognition of the Calderon Government, and was furnished with the instructions to which I have already referred. In his dispatch, under date of August 15, 1881, he quotes the following as the final assurances given to him by the Chilian Secretary of State:

"You may say to your Government that every

effort would be given by Chili to strengthen the Government of President Calderon, giving to it the most perfect freedom of action, considering the Chilian occupations; that no question of Chilian annexation would be touched until a constitutional government could be established in Peru, acknowledged and respected by the people, with full power to enter into negotiations for peace; that no territory would be exacted unless Chili failed to secure ample and just indemnification in other and satisfactory ways, as also ample security for the future, and that in no case would Chili exact territory, save where Chilian enterprise and Chilian capital had developed the desert, and where to-day nine tenths of the people are Chilians."

But after this recognition, made in entire good faith to both parties, three things followed: 1. The presence of a United States Minister at Lima accredited to the Calderon Government, and the reception in Washington of a Minister from that Government gave it unquestionable, increased strength and confidence. 2. The adherents of Piérola, realizing the necessity of peace and the existence of a stable government to negotiate it, gradually abandoned the forlorn hope of continued resistance, and gave their adhesion to the Calderon Government. 3. The Congress which assembled in the neutral zone set apart for that purpose by the Chilian authorities, and which was further allowed by the Chilian Government to provide for the military impositions by the use of the national credit, and thus recognized as the representatives of the Peruvian people, authorized President Calderon to negotiate a peace, but upon condition that no territory should be ceded. As soon as these facts indicated the possibility of a real and independent vitality in the constitution of the Calderon Government, the Chilian military authorities issued an order forbidding any exercise of its functions within the territory west of the mountains, including the capital and ports of Peru. Unable to understand this sudden and—giving due regard to the professions of Chili—this unaccountable change of policy, this Government instructed its Minister at Lima to continue to recognize the Calderon Government until more complete information would enable it to send further instructions. If our present information is correct, immediately on the receipt of this communication they arrested President Calderon, and thus, as far as was in their power, extinguished his government. The President does not now insist on the inference which this action would warrant. He hopes that there is some explanation which will relieve him from the painful impression that it was taken in resentful reply to the continued recognition of the Calderon Government by the United States. If, unfortunately, he should be mistaken, and such a motive be avowed, your duty will be a brief one.

You will say to the Chilian Government that the President considers such a proceeding as an intentional, unwarranted offense, and that you will communicate such an avowal to the Government of the United States, with the assurance that it will be regarded by the Government as an act of such unfriendly import as to require the immediate suspension of all diplomatic intercourse. You will inform me immediately of the happening of such a contingency, and instructions will be sent to you. But I do not anticipate such an occurrence from the information before the department of which you are possessed. It is more probable that that course will be explained by an allegation that the conduct and language of the United States Minister in Peru had encouraged the Calderon Government to such resistance of the wishes of Chili as to render the negotiation of a satisfactory treaty of peace with the Calderon Government impossible. Any explanation which relieves the action of the Chilian Government of the character of an intentional offense will be received by you to that extent, provided it does not require as a condition precedent the disavowal of Mr. Hurlbut.

Whatever may be my opinion as to the discretion of all that may have been said or done by Mr. Hurlbut, it is impossible for me to recognize the right of the Chilian Government to take such action without submitting to the consideration of this Government any cause of complaint which it was prepared to allege against the proceedings of the representative of the United States. The Chilian Government was in possession of the instructions sent to that Minister, as well as those to his colleague at Santiago; there was no pretense that the conduct of General Kilpatrick was anything but friendly; Chili was represented here by a Minister who enjoyed the confidence of his Government, and nothing can justify the assumption that the United States was acting a double part in its relations to the two countries. If the conduct of the United States Minister seemed inconsistent with what Chili had every reason to know was the friendly intention of the United States, a courteous representation through the Chilian Minister here would have enabled this Government promptly to correct or confirm him. You are not, therefore, authorized to make to the Chilian Government any explanation of the conduct of General Hurlbut, if that Government, not having afforded us the opportunity of accepting or disavowing his conduct, insists upon making its interpretation of his proceedings the justification of its recent action.

It is hoped, however, that you will be able, by communication at once firm and temperate, to avoid these embarrassments. If you should fortunately reach the ground where frank mutual explanation can be made without the sacrifice of that respect which every government owes to itself, you will then be at liberty, conforming your explanation to the recent instruction to Mr. Hurlbut, with a copy of which you are furnished, to show to the Government of Chili how much both his words and acts have been misconceived. It is difficult for me to say now how far an explanation would be satisfactory to the President which was not accompanied by the restoration or recognition of the Calderon Government. The objects which he has at heart are first to prevent the misery, confusion, and bloodshed which the present relations between Chili and Peru seem only too certain to renew; and, second, to take care that in any friendly attempt to reach this desirable end the Government of the United States is treated with the respectful consideration to which its disinterested purposes, its legitimate influence, and its established position entitle it. The President feels in this matter neither irritation nor resentment. He regrets that Chili seems to have misconceived both the spirit and intention of the Government of the United States, and thinks her conduct has been inconsiderate. He will gladly learn that a calmer and wiser judgment directs her counsels, and asks in no exacting spirit the correction of what were perhaps natural misunderstandings. So he would be satisfied with the manifestation of a sincere purpose on the part of Chili to aid Peru either in restoring the present Provisional Government, or establishing in its place one which will be allowed the proper freedom of action necessary to restore internal order, and to conduct a real negotiation to some substantial result.

Should the Chilian Government, while disclaiming any intention of offense, maintain its right to settle its difficulties with Peru without the friendly intervention of other powers, and refuse to allow the formation of any government in Peru which does not pledge to consent to the cession of Peruvian territory, it will be your duty, in language as strong as is consistent with the respect due an independent power, to express the disappointment and dissatisfaction felt by the United States at such a deplorable policy. You will say that this Government recognizes without reserve the right of Chili to adequate indemnity for the cost of war, and a sufficient guarantee that it will not again be subjected to hostile demonstration from Peru; and, further, that if Peru is unable or unwilling to furnish such indemnity, the right of conquest has put it in the

power of Chili to supply them, and the reasonable exercise of that right, however much its necessity may be regretted, is not ground of legitimate complaint on the part of other powers.

But this Government feels that the exercise of the right of absolute conquest is dangerous to the best interests of all the republics of this continent; that from it are certain to spring other wars and political disturbances, and that it imposes even upon the conqueror burdens which are scarcely compensated by the apparent increase of strength which it gives. This Government also holds that between two independent nations, hostilities do not, from the mere existence of war, confer the right of conquest until the failure to furnish the indemnity and guarantee which can be rightfully demanded. The United States maintains, therefore, that Peru has the right to demand that an opportunity should be allowed her to find such indemnity and guarantee. Nor can this Government admit that a cession of territory can be properly exacted far exceeding in value the amplest estimate of a reasonable indemnity. Already, by force of its occupation, the Chilean Government has collected great sums from Peru, and it has been openly and officially asserted in the Chilean Congress that these military impositions have furnished a surplus beyond the cost of maintaining its armies in that occupation. The annexation of Tarapaca, which, under proper administration, would produce annually a sum sufficient to pay a large indemnity, seems to us to be not consistent with the execution of justice.

The practical prohibition of the formation of a stable Government in Peru, and the absolute appropriation of its most valuable territory, is simply the extinction of a state which has formed part of the system of republics on this continent, honorable in the traditions and illustrations of its past history, and rich in the resources for future progress. The United States, with which Peru has for many years maintained the most cordial relations, has the right to feel and express a deep interest in its distressed condition, and while, with equal friendliness to Chili, we will not interpose to deprive her of the fair advantages of military success, nor put any obstacle to the attainment of future security, we can not regard with unconcern the destruction of Peruvian nationality. If our good offices are rejected, and this policy of the disruption of an independent state be persisted in, this Government will consider itself discharged from any further obligation to be influenced in its action by the position which Chili has assumed, and will hold itself free to appeal to the other republics of this continent to join it in an effort to avert consequences which can not be confined to Chili and Peru, but which threaten with extremest danger the political institutions, the peaceful progress, and the liberal civilization of all America.

If, however, none of these embarrassing obstacles intervene, and Chili receives in a friendly spirit the representatives of the United States, it will be your purpose, first, to concert such measures as will enable Peru to establish a regular government and initiate negotiations; second, to induce Chili to consent to such negotiations without cession of territory as a condition precedent; third, to impress upon Chili that in such negotiations she ought to allow Peru a fair opportunity to provide for a reasonable indemnity, and in this connection to let it be understood that the United States would consider the imposition of an extravagant indemnity, so as to make the cession of territory necessary in satisfaction, as more than is justified by the actual cost of war and as a solution threatening renewed difficulties between the two countries. As it is possible that some time will elapse before the completion of all arrangements necessary for a final negotiation, this Government would suggest a temporary convention, which, representing the spirit of our friendly representations, would bring Peru and Chili into amicable conference and provide for a meeting of plenipotentiaries to negotiate a per-

manent treaty of peace. If negotiations be assured, the ability of Peru to furnish the indemnity will be a matter of direct interest. On this subject we have no information upon which definite instructions can now be based. While you will carefully abstain from any interposition in this connection, you will examine and report to the department promptly any plans which may be suggested. You will not indicate any wish that the Government of the United States shall act as umpire in the adjudication between the contending powers. Should an invitation to that effect be extended, you will communicate by telegraph for instructions. The single and simple desire of this Government is to see a just and honorable peace at the earliest day practicable, and if any other American Government can more effectively aid in producing this auspicious result, the United States will cordially sustain it, and lend such co-operation as the circumstances may demand. I am, etc.,

JAMES G. BLAINE.

Minister Kilpatrick wrote to Secretary Blaine under date of Santiago, December 2, 1881, stating that the Chilean Government had promised that it would not demand a cession of territory as an absolute condition of peace, and that it would endeavor to build up and strengthen the Calderon Government in Peru. These promises, General Kilpatrick intimated, would have been fulfilled but for the representations made by Minister Hurlbut of the attitude of the United States and bad faith on the part of Calderon. The coming of the special mission, it is stated, creates considerable excitement in Chili, and the alleged support by the United States of the Peruvian Company scheme greatly intensifies it. On December 2, 1881, Secretary Blaine wrote as follows to Mr. Trescott:

SIR: It is not impossible that before the close of the special mission, instructions for which have been already furnished you, it may be deemed advisable that, at its close, you should return to the United States by way of the Argentine Confederation and Brazil. Positive instructions may be sent you to this effect before your mission closes, but at present my purpose is to advise you of such possible contingency, and to add that, if at the close of the special mission you should decide that a return home by the way of Buenos Ayres and Rio de Janeiro was advisable, you are hereby authorized, without waiting for such instructions, to return home by that way. Should you do so, you will, in your communications with the representatives of the Governments of Brazil and the Argentine Confederation, impress upon them the advantages which would result from a full and frank conference between all the republics of North and South America. By the time you can reach these points the opinions of this Government on this subject will have been formally submitted to them, and you will have the opportunity to enforce these views, and to direct their attention to the importance of the proposed congress. If you will telegraph the probable time of your arrival at Buenos Ayres, a vessel of the United States will meet you at that place.

On January 3, 1882, Secretary Frelinghuysen instructed Mr. Trescott by telegraph to exert his influence pacifically, and to avoid all issues which might lead to his withdrawing from his post in Chili.

On the next day (January 4th) the Secretary telegraphed to Mr. Trescott that it was the wish of the President that our friendly offices should be extended impartially to both republics (Chili and Peru); that a pacific influence should be exerted, and every issue which might lead to

offenses avoided ; that questions growing out of the suppression of the Calderon Government could be attended to at Washington ; and that it was preferable that he should not visit Buenos Ayres on his way home. On the 9th of January, 1882, Secretary Frelinghuysen wrote to Señor Martinez, the Chilian Minister at Washington, acknowledging receipt of a note from the latter of December 28th, in which he gave his views as to the condition of Peru, derived from his latest intelligence. Secretary Frelinghuysen continues his letter as follows :

I was much gratified yesterday with the assurances which you gave me in our personal interview that your Government, in the arrest and imprisonment of Calderon, was in no way instigated by an unfriendly feeling toward the United States. If you feel yourself at liberty to renew that assurance in writing, I shall be still further and greatly obliged by your doing so. Such a communication, written in the friendly spirit which marked your verbal communications, will tend to promote that friendly feeling which is so desirable among American republics.

On the 10th of January Señor Martinez replied to this letter in a similar friendly spirit.

On January 9, 1882, Secretary Frelinghuysen wrote to Mr. Trescott as follows :

SIR: Since you received your instructions on your departure as special envoy to Chili, Peru, and Bolivia, I have sent you by cable two instructions. As I have not heard of your having received them, and to make their purport more intelligible than the brevity of a telegram would permit, I send this, stating the proper construction of your original instructions, somewhat modifying them, and indicating how they are to be executed.

The President wishes in no manner to dictate or make any authoritative utterance to either Peru or Chili as to the merits of the controversy existing between those republics, as to what indemnity should be asked or given, as to a change of boundaries, or as to the *personnel* of the Government of Peru. The President recognizes Peru and Chili to be independent republics, to which he has no right or inclination to dictate. Were the United States to assume an attitude of dictation toward the South American republics, even for the purpose of preventing war, the greatest of evils, or to preserve the autonomy of nations, it must be prepared by army and navy to enforce its mandate, and, to this end, tax our people for the exclusive benefit of foreign nations. The President's policy with the South American republics and other foreign nations is that expressed in the immortal address of Washington, with which you are entirely familiar. What the President does seek to do is to extend the kindly offices of the United States impartially to both Peru and Chili, whose hostile attitude to each other he seriously laments ; and he considers himself fortunate in having one so competent as yourself to bring the powers of reason and persuasion to bear in seeking the termination of the unhappy controversy ; and you will consider as revoked that portion of your original instruction which directs you, on the contingency therein stated, as follows :

"You will say to the Chilian Government that the President considers such a proceeding as an intentional and unwarranted offense, and that you will communicate such an avowal to the Government of the United States, with the assurance that it will be regarded by the Government as an act of such unfriendly import as to require the immediate suspension of all diplomatic intercourse. You will inform me immediately of the happening of such a contingency, and instructions will be sent to you."

Believing that a prolific cause of contention between two nations is an irritability which is too readily of-

fended, the President prefers that he shall himself determine, after report has been made to him, whether there is or is not cause for offense. It is also the President's wish that you do not visit (although indicated in your original instruction that you should do so) as the envoy of this Government, the Atlantic republics after leaving Chili.

The United States is at peace with all the nations of the earth, and the President wishes hereafter to determine whether it will conduce to that general peace, which he would cherish and promote, for this Government to enter into negotiations and consultation for the promotion of peace with selected friendly nationalities without extending a like confidence to other peoples with whom the United States is on equally friendly terms. If such partial confidence would create jealousy and ill-will, peace, the object sought by consultation, would not be promoted. The principles controlling the relations of the republics of this hemisphere with other nationalities may, on investigation, be found to be so well established that little would be gained at this time by reopening a subject which is not novel. The President, at all events, prefers time for deliberation.

There is considerable correspondence relative to the Cochet and Landreau claims, but a want of space makes it necessary at present to pass it over.

PHOTOGRAPHY, IMPROVEMENTS IN. The collodion process of photography, which has been in use for thirty years, is being generally supplanted by the new dry process, in which gelatine is employed to hold in suspension the sensitive salts of silver. The preparation of the gelatino-bromide plates is conducted as follows: To a solution of fine gelatine in water is added bromide of potassium or bromide of ammonium. In another vessel nitrate of silver is dissolved in water. In a room lighted only through dark ruby glass the solution of silver salt is gradually stirred into the mixture of bromide and gelatine. When great sensitiveness is required, it is to be kept in a fluid condition for from one to four days. Ordinarily it is left only a few hours, and can be more rapidly evaporated by heating. The emulsion is next freed from the nitrate of potassium or ammonium by breaking it into pieces after it has been allowed to set in a deep dish, and washing it in several changes of cold water. It is then melted into plates, after being drained. After the plates have been coated and dried they are ready for use. These dry plates can be kept any length of time without losing their sensitiveness. Plates which are thus made in quantity and are always ready can be employed in out-of-door and amateur work, and for the many scientific uses of photography in which the troublesome wet process, requiring the use of chemicals and a dark chamber, would be difficult or impossible. The convenience of the gelatine and bromide process is not its only advantage. The images rendered are as clear and perfect as any obtained from collodion plates, and the impressions are formed in the camera in one sixth to one tenth the time of exposure. The action on the most highly sensitive gelatine plates is practically instantaneous, pictures having been taken in $\frac{1}{150}$ of a second.

PHYSIOLOGY, RECENT. Physiological science has made great advances under the system of specialized minute investigation of the different tissues and organs of the body and their functions which is now very generally applied. Nearly every vessel and nearly every fluid of the body has been subjected under this system to a most rigid and searching microscopic, chemical, and dynamic examination, and is thereby being made to disclose the most intimate secrets of its structure and function. Dr. Ferrier and Professor Yeo have added to the clearness of the evidence of the localization of function in the cortex of the brain from observations made in their experiments on monkeys. They are able, after having effected a localized or limited lesion by means of the galvanic cautery of the surface of the brain, to predict the precise phenomena of paralysis which will occur. On microscopical examination after death following these phenomena, strands of fibers proceeding from the damaged parts of the cortex may be traced down to the motor or sensory ganglia at the base of the brain, and thence downward through the spinal cord to the muscles paralyzed by the lesion. Exner, who has been engaged in considering localization in the function of the brain by the aid of the phenomena presented by pathological changes, has satisfied himself by that method of the existence of very limited areas on the surface of the brain, destined to receive impressions and original motor impulses. County's researches on the same point, published in Brown-Séquard's "Archives," appear to be altogether opposed to Ferrier and Hitzig's conclusions.

Professor Charles S. Ray, assisted by G. H. Lewes, student, and J. Graham Brown, M. D., has pursued an investigation of the blood-pressure and its variations in the arterioles, capillaries, and smaller veins. Attempts had been previously made to measure the pressure of the blood in the capillaries by N. V. Kries, whose experiments were made upon the vessels of the human skin, particularly on that part of the distal phalanx of one of the fingers immediately behind the nail. The method he employed consisted in pressing, by means of weights, a small glass plate of known area upon the portion of skin selected, and finding the weight required to produce a distinct whitening of the compressed as compared with the surrounding skin. It was assumed, in making these experiments, that the pressure which sufficed to cause an evident change in the color of the small area of skin lying under the glass plate, was equal to the pressure of the blood in the capillaries lying nearest the surface. This method was applied with some satisfaction to the determination of the relative values of pressure under varied conditions. Professor Ray sought a more delicate method for the study of the absolute values of the pressure by means of microscopic examinations of the web of a frog's foot. The first observations showed that as

the pressure to which the portion of tissue examined was subjected was raised, the current of blood through the smaller arterioles lost the equable character which it normally presents, and a rhythmic variation in rapidity, a pulse which could not be detected in the small arterioles while the tissue was uncompressed, each increase corresponding with a heart-beat, became more and more evident. The blood-flow through the capillaries also became more and more pulsatile in character, and, in that part of the capillary plexus which lies nearest the arteriole whence the blood came, a temporary arrest of circulation took place when a certain pressure, which was different at different points, was reached. It was also found that the capillaries which first cease to convey blood under these circumstances are not always the same, a fact which can not be easily explained otherwise than by assuming that the relative diameters of the capillaries have changed—that some vessels have expanded while others have contracted—in the interval between two observations. In favorable instances such a change in the diameter of the different vessels can be verified with the help of a micrometer. The small veins, or venous rootlets, show under the application of pressure a diminution of diameter, often to one third of the original caliber, accompanied with an increase in the flow of blood through their interior. The flow of blood in the veins becomes accelerated with each pulse-wave in the arterioles, and slowed between the beats; and when the blood no longer advances in the arteriole, the corresponding vein or veins become empty or collapsed. It has long been known that capillary vessels may present considerable variations in diameter at different times, and these variations have been ascribed to the elasticity of the capillary walls. Professor Ray's experiments, however, tend to show that modifications of the intra-capillary pressure, much greater than those which can normally occur, influence but slightly the caliber of the capillaries, and lead almost inevitably to the conclusion that the capillaries are contractile as well as elastic. To the question whether this contractility resides in some anatomically differentiated part of the capillary wall, or whether it be a property inherent in the wall as a whole, the answer may be returned that capillary vessels may be seen to vary greatly in diameter without any localized contraction or expansion being visible; that the capillary tube expands or contracts as a whole, its diameter remaining equal throughout its whole length. The anæmia or absence of blood which is produced on any part by pressure is followed, when the pressure is removed, by an excess of blood or congestion, which gradually passes away. This phenomenon has been proved not to reside in any reflex action through the cerebro-spinal vasomotor centers; hence attention is directed to the probability of some peripheral vasomotor mechanism by which the degree of dilata-

tion of the vessels of the skin is capable of being regulated independently of the cerebro-spinal vasomotor centers. It is not clear what is the nature of this mechanism, but it seems to be adequate to measure out the degree of dilatation according to the requirements of the tissues, and appears to be the same that is called into action under the application of irritants. The capillary vessels have been shown to be capable of varying their diameters independently of one another. The conclusion is logically derivable that each capillary is capable of varying its caliber in accordance with the requirements of the tissues which it supplies with blood. To this automatic regulation of the peripheral circulation Professor Ray is inclined to ascribe a function of great importance, both from a physiological and a pathological point of view; and it appears that it is principally, if not exclusively, in connection with it that the contractility of the capillaries comes into play.

Dr. J. N. Langley, of Trinity College, Cambridge, has brought the subject of the histology of the gastric or pepsin-making glands before the Royal Society, in a paper in which he has sought to collate the proofs, from his experiments, that the gastric glands in life contain no ferment, but much zymogen or substance capable of giving rise to ferment; that by far the greater part of the zymogen can be seen in the chief cells in the form of granules; and that during digestion the granules are usually used up in such a manner as to give rise to an outer non-granular and an inner granular zone in the chief cells. These points, if proved, would establish fundamental resemblances in life-habit between the chief cells of the gastric glands of mammals, the cells of the gastric glands of the lower vertebrates, and the cells of the pancreatic gland. It was found that the chief-cell granules of some mammals are preserved by osmic acid, while those of others are not. The examinations were made chiefly with preparations of the former class, and were checked by comparison with glands in the fresh state; they related to the border cells and the chief cells of different regions of the stomach. In both the mouse and the mole, in the hungry state, the chief cells are granular throughout; in the digestive state, the chief cells have an outer non-granular zone of from one third to one half of the cell. In the Guinea-pig and the rabbit the chief cells of the latter part of the greater curvature show few or no granules; in the median part of the greater curvature the glands have usually an outer clear zone, which diminishes in passing toward the fundus, while in the fundus and in the adjoining part of the greater curvature the chief cells are granular throughout. During digestion an outer clear zone is formed in the glands of the latter part of the fundus and the fore part of the greater curvature, while the cells of the rest of the greater curvature lose more or less completely their granules. Heidenhain first announced

the conclusion that the chief and not the border cells produce pepsin. This is confirmed by Dr. Langley's comparison of the pepsin contents of the different stomach regions in several animals. In each case the amount of pepsin found bore no relation to the number of border cells, but almost always varied directly with the number of chief cells. It was also shown that in the different regions of the stomach of the rabbit most pepsin is found where the granules are most numerous. It is now very generally accepted that pepsin exists in the gastric glands partly free and partly combined—i. e., partly as pepsin and partly as pepsinogen. A series of experiments made with especial reference to this point has convinced Dr. Langley that pepsin, as such, does not exist in the living glands, but that in the animals with which he worked, and probably in all vertebrates, the gastric glands store up pepsinogen and not pepsin. This is converted by hydrochloric acid into pepsin. As far as our knowledge goes, rennet-ferment is found in greatest quantity where there is most pepsin, and both vary *pari passu*. Perhaps, suggests Dr. Langley, the granules of the chief cells may contain zymogen both of pepsin and of rennet-ferment, and he offers this as a subject for further observation. In all the vertebrates in which the gastric glands have been carefully examined in the living state, it has been found that those gastric glands which produce most ferment store up their zymogen in the form of granules. The ferment-forming cells consist of a net-work of protoplasm, inclosing a mass of granules. It seems probable, on general grounds, that the cells should store up other antecedent substances besides zymogen, and we are not without facts which will tell in favor of this view. In the saliva of many animals ferment is almost or entirely absent, but mucin and proteids occur. We have some proof that mucin arises during secretion from the splitting up of an antecedent substance, mucigen, which is stored up in the cell; in the serous salivary glands, and in the lachrymal glands, the occurrence of granules which are used up during secretion, just as are the granules of the pancreas or of the gastric glands, makes it extremely probable that in those glands some antecedents of the proteids found in the secretion, not the actual proteids of the secretion, are stored up. Apparently, then, a large number of gland-cells have the feature in common that the cell protoplasm forms certain antecedent substances, which Dr. Langley proposes shall be called "mesostates," which it stores up, and that are converted, when secretion takes place, into secretory products. In the pancreas the chief mesostate is trypsinogen, in the gastric glands it is pepsinogen, in the mucous glands it is mucigen, etc.

Observations made by Uffelmann on a patient upon whom gastrotomy had been performed, have indicated that no hydrochloric acid is secreted during the earlier stages of

digestion, although that substance may sometimes be found in the course of three quarters of an hour or an hour after the ingestion of food. The acid present was always lactic, even when the conversion of albumen into peptone, and of starch into dextrine and sugar, was distinctly taking place. The observations of Cash, made in Ludwig's laboratory, have shown that, contrary to the statements usually given in text-books, fats may be split up in the stomach into the fatty acids and glycerine, while an acid, perhaps the lactic, is formed. It is a remarkable fact that although after the full digestion of every meal a considerable quantity of peptones must be introduced into the blood, none passes off by the kidneys; yet if solutions of the peptones be directly injected into the blood-vessels, from 60 to 70 per cent is rapidly eliminated by these organs. Hofmeister, finding peptone abundant in the wall of the intestine, has arrived at the conclusion, from his experiments on this point, that the numerous nuclei and cells which occupy the meshes of the adenoid tissue of the intestinal mucous membrane fix the peptones, and thus enable them to enter the blood-current without the danger of being excreted by the kidneys. The white corpuscles, on this view, act as carriers of nutritive material to all parts of the body, just as the red corpuscles act as carriers of oxygen.

During digestion much saliva, gastric juice, and pancreatic juice flow into the alimentary canal, each secretion bearing with it a considerable quantity of ferment, chiefly either amylolytic or proteolytic. Very little, however, is known of the fate of these ferments; for the little of them that may be found in the fæces and urine makes but a small fraction of the whole amount which is received by the alimentary canal during digestion. Dr. J. M. Langley has made investigations on this subject, the results of which appear to him to show that the amylolytic ferment secreted by the salivary glands is destroyed by the hydrochloric acid of the gastric juice, that the proteolytic and rennet ferments secreted by the gastric glands are destroyed by the alkaline salts of the pancreatic and intestinal juices, and by trypsin, and that the proteolytic and amylolytic ferments secreted by the pancreas are not improbably destroyed in the large intestine by the acids formed there. In experiments with ptyalin, it was found that a ptyalin containing fluid capable of converting a considerable amount of starch into sugar in a few minutes is incapable, after treatment at 35° C. with hydrochloric acid of .04 per cent for seven hours, of converting any appreciable amount of starch into sugar in three hours. As in all the animals examined the fluid in the stomach reddened litmus-paper very much more deeply than does hydrochloric acid, the conclusion is drawn that the amylolytic ferment of the saliva is destroyed at any rate by the end of gastric digestion; and it was corroborated by

an experiment in which the diluted parotid extract retained but a trace of its amylolytic power when it was warmed for fifteen minutes with one tenth of its bulk of gastric fluid. The destructive action of even very dilute acids was found to be extraordinarily rapid. The secretions from the pancreas and intestinal glands are also capable of dissolving the gastric ferments, and owe their power chiefly to their alkaline salts. The action of these salts, as exemplified in sodium carbonate, is decided and rapid. It is augmented when trypsin is also present, but the effect of trypsin alone is less marked. The rennet ferment is, like pepsin, destroyed rapidly at the body temperature by sodium carbonate, and to some extent by trypsin; whence we may conclude that it also loses its ferment power irrecoverably in the small intestine. Since trypsin is destroyed both by hydrochloric acid and by pepsin, the administration of pancreatic extract with food in medical practice to aid digestion is of more than doubtful benefit; for little, if any, trypsin can pass into the duodenum to exercise a digestive function there. An extract of the pancreas rapidly loses its amylolytic power when warmed with dilute hydrochloric acid, more rapidly than does trypsin under similar circumstances, but apparently less rapidly than does the amylolytic ferment of the parotid.

Recent researches reported by M. Dufresne throw new light on the relations of ptyalin, diastase, and the gastric juice. It has been a subject of debate whether the saliva is destroyed in the gastric juice, or continues in the stomach its action on starch. M. Dufresne's experiments prove that the saliva is paralyzed in pure gastric juice, but recovers its action in the mixed gastric juice and in the duodenum, and is capable of continuing the process of saccharification; while diastase is irrecoverably destroyed in hydrochloric solutions or in pure gastric juice, and is profoundly altered after passing into the mixed gastric juice, so that if it still dissolves starch it no longer saccharifies it. Ptyalin is recommended as an excellent re-agent for demonstrating the difference between mixed gastric juice, which owes its acidity to organic acids, and pure gastric juice, the strength of which is derived from hydrochloric acid.

Seegen and Kratschner have brought a few new facts to light from their investigations of the relations of sugar to glycogen in the liver; and while they find, in accordance with most other observers, that the amount of sugar increases after death, they maintain that this increase does not take place, as is generally accepted, at the expense of the glycogen, but of some other substance; for not only does the quantity of sugar present augment, but a larger percentage of glycogen can actually in some instances be obtained some hours after the removal of the liver from the body than instantly after death. If this be true, and glycogen be the result of a process of disintegration, some

other compounds must also be present in larger quantities shortly after death. If these can be discovered, and their composition ascertained, it may hereafter be possible to trace the source of the glycogenous and saccharine bodies by a process of synthesis.

The lymphatics of the pancreas have been worked out and illustrated by Dr. and Mrs. Haggan. Sappey, of the Faculty of Medicine of Paris, has published a work on the morphological elements of the blood, in which he describes the red and white corpuscles of each division of the animal kingdom, and has illustrated them with many engravings. Crystallizable forms of albumen have been obtained from the seeds of the pumpkin and from hempseed, the latter presenting the octahedric and rhombic-dodecahedric forms that had been regarded as peculiar to hæmoglobin.

Professor Charles S. Ray, M. D., has applied to the investigation of the manner of action and the function of the spleen a method of indirect observation in which he studied the rapidity of the circulation through its blood-vessels. It is fully recognized by physiologists that, under normal conditions, a certain relation subsists between the degree of functional activity of an organ or tissue and the degree of expansion of its blood-vessels. Applying this rule to a series of observations on the kidney, he was surprised at the closeness of the correspondence that existed between the activity with which the renal circulation was carried on and the rapidity of the secretion of urine; which was so near that he found the rapidity of the flow of urine could be observed indirectly by watching the changes in the caliber of the blood-vessels of the kidney with much greater convenience than could be done directly by counting the number of drops of urine which escaped. It struck him that this method could be most usefully applied to the investigation of organs whose functions can not be studied by any direct method with which we are as yet acquainted, of which the spleen is a typical example; and it is conveniently situated for the purpose. His observations taught him that the circulation through the spleen differs from that of other organs in the important particular that the force which impels the blood through the organ is not that of the blood-pressure in the arteries, which has comparatively little influence on the volume of the spleen; but that the splenic circulation is carried on chiefly, if not exclusively, by a rhythmic contraction of the muscles contained in the capsule and trabeculae of the organ. The movement is exceedingly regular, in so far as rhythm is concerned, and varied but slightly during hours of experiment and under considerable changes of position. The process in the spleen is different in nature from the rhythmic contraction and expansion which may be observed in various organs on the "Traube-Hering" blood-pressure curves showing themselves. The spleen also takes part in the pro-

duction of these curves, but the contractions they indicate are readily distinguished from those which are proper to this organ and which are independent of changes in the blood-pressure. Stimulation either of the central end of a cut sensory nerve or of the medulla oblongata causes a rapid contraction of the spleen. Stimulation of the peripheral ends of both splanchnics and of both vagi causes a rapid contraction. After section of these four nerves, stimulation of a sensory nerve still causes a contraction, showing that vaso-constrictor influences may pass from the cerebro-spinal centers to the spleen by some other route or routes than the nerves named. The fact that the section of these principal nerves which convey vasomotor influences from the cerebro-spinal centers to the spleen has so little effect on the rhythmic contractions and expansions of the organ, seems to indicate that the latter are regulated and maintained by some mechanism contained in the spleen itself.

MM. H. Caillet de Poncey and C. Livron, of the Medical School at Marseilles, have found that, when poisoning by arsenic takes place, the phosphorus which exists as phosphoric acid in the brain is replaced by arsenic. The substitution takes place in the *lecithine*, a very complex nitrogenized compound, which thus becomes transformed into an insoluble albuminoid substance. Acute poisoning takes place too rapidly for the arseniated lecithine to be subjected to physiological reactions and be eliminated, and the animal dies under the local influence of the poison without sensible variation of the normal phosphorus of the nervous matter. In slow and chronic poisoning, the replacement is less rapid; arseniated lecithine is formed and acts as ordinary lecithine, passing gradually into the insoluble albuminoid state, while the phosphorus is steadily diminished, giving place to the arsenic.

Professor H. P. Bowditch and William F. Southard, M. D., of the Harvard Medical School, have performed a course of experiments to ascertain which of the two senses, sight and touch, supplies us with the more accurate information as to the position of objects around us. The comparison may be made in several ways, one of the most obvious of which is to compare the smallest distances within which two impressions made upon sensitive surfaces can be recognized as separate and distinct. It has been found, for example, that the distance between two luminous points, as two fixed stars, must subtend a visual angle of at least one minute, in order that the sources of light may be recognized as separate and distinct from one another. This angle corresponds to a distance of 0.00438 millimetre on the retina. The smallest distance upon the surface of the body at which two tactile impressions are recognized as distinct is, according to Weber's researches, 1.1 mm. (upon the tip of the tongue). Hence it should follow that the retina is 251 times more accurate than the most sensitive part of

the surface of the body in localizing impressions made upon it. It may be objected, however, that a comparison of this sort has little value, inasmuch as it is the optical image of the object which is applied to the retina, while the object itself is brought in contact with the surface of the body. It is interesting, therefore, to compare the absolute size of the smallest intervals by which two external objects must be separated in order that they may make distinct impressions upon the two senses. In making the comparison regard must be had to the distances within which both senses can be practically employed. The sense of touch can not be exercised beyond an arm's length, and the sense of sight is useless for objects nearer than the nearest point for which the eye can be accommodated. About thirty inches may be assumed as the longest convenient range of touch, four inches as the shortest of distinct vision. An angle of $1'$, which has been taken as the minimum visual angle, is subtended at the distance of four and of thirty inches by lines of 0.03 and 0.2 mm. respectively. That is, two points, 0.03 mm. apart, at a distance of four inches from the eye, are seen to be distinct and separate, and the same is true of points 0.2 mm. apart at thirty inches from the eye. Now, since, according to Weber, two points, in order to produce separate impressions upon the skin at the ends of the fingers, must not be less than 2.2 mm. apart, it appears that within the limits of four and thirty inches the sense of sight is from ten to seventy times more accurate than that of touch. In these tests, however, it is only the accuracy and delicacy of two sensitive surfaces that are compared together, but in common life the data of sight and touch are intimately associated with those of muscular sense; and the inquiry needs to be continued to ascertain whether the superiority of vision is maintained under these circumstances. The fact that we depend more upon touch than upon vision in estimating slight differences of level in contiguous surfaces, as when we draw the finger-nail over the line of junction, indicates that this may not always be the case.

The experiments of Drs. Bowditch and Southard had especial reference to the determination of the relative accuracy of sight and touch, when aided by the muscular sense, and were applied for the determination of the precision with which a movement can be executed toward a point, the position of which has been determined by sight or by touch. A small object was put upon a white sheet of paper in different positions. The experimenter, having ascertained its position by sight, shut his eyes and endeavored to touch the object with the point of a pencil held in his right hand. In another set of observations he himself put the object in position with the left hand, having his eyes closed, and then, keeping his eyes closed, endeavored to place the pencil-point upon it as before. In a preliminary series of sixty trials, in half of which the

position of the object was determined by sight, and in the other half by touch, sight appeared to be twice as accurate for the determination as touch. The experiments were then varied in different ways, employing indirect instead of direct vision, to eliminate the aid that might be given by the muscular sense of the muscles that move the eye; by using the same hand to place the object and to search for it; to determine the effects of different intervals of time; and to ascertain the effect of maintaining the head in a fixed position. In all, seven sets, of six hundred experiments each, making in all four thousand two hundred trials, were performed. The result of the whole was, that the most accurate spatial knowledge was obtained by direct vision. The effect of fixing the position of the head was to diminish the accuracy of the localization, but even under those circumstances the errors were, in nearly every instance, less than those met with in the other methods of experimenting. The method next in accuracy was that of localization by touch, with the same hand by which the movement in search of the object was executed, the head being free to move. "It may, at first sight," observe the experimenters, "seem surprising that this method should be less accurate than that of direct vision. It would be reasonable to suppose that the position of an object having been once determined by the sense of touch, it would be possible to place the hand upon it a second time with greater precision than would be possible when the position had been determined by the sense of sight. That the reverse is the case, is probably to be accounted for by the fact that in our daily life all our movements are guided by the sense of sight to a much greater extent than by the sense of touch." Next in order of accuracy of localization came the experiments with indirect vision; next, those in which the position of the object was determined by the same hand with which the movement in search of it was made, but the head was fixed. Least accurate of all the methods employed was that of touch with the opposite hand. The experiments respecting the effects of time showed that a slight interval is required for the formation of a mental image of the object in space, and that this interval is about two seconds, to which point the accuracy of the identifications increased, and after which it diminished. The results of the experiments, having been obtained entirely from one person, are liable to correction for the personal equation; and it is suggested that it would be a very interesting extension of the research, to inquire how far the various occupations of life affect the accuracy of execution of the movements. "It might, perhaps, be expected that the power of the blind to determine the position of objects by the sense of touch would be found, when tested in this way, to be much greater than that of persons possessed of sight. A few preliminary experiments, however, which have al-

ready been made, seem to indicate that this is not the case."

M. Ranvier has been much assisted in his investigations of the structure of the organs of touch by the examination of the structure of infants. At birth, the nerves of touch may be found to pass into certain papillæ on the palmar aspect of the fingers, immediately beneath the cells of the mucous layer of Malpighi, where they form a net-work of ramifications which, though distinct, are closely pressed together. No cellular elements are at this time mixed with the net-work, but a small collection of round cells exists beneath it. These gradually surround the net-work and pass in among its branches; the whole soon becomes united, and a tactile corpuscle is formed. Sometimes the corpuscle remains unilobar, but more frequently other lobes are formed in the same manner as the first one, and joined to it. Hence it is that, in young children, the nerve-fibers which enter into the composition of the tactile corpuscles are separated by layers of cells, which, in the course of development, become pushed to the periphery of each lobe, and the most of them undergo a considerable atrophy. This fact suggests that they are not nervous in their nature, for the nerve-cells, so far from undergoing atrophy during growth, gradually increase in size to their full development. M. Ranvier has not perceived any communication between the nerve-fibers and the cells in the tactile corpuscle; the ramifying branches of the nerve-fibers, after a tortuous and usually complicated course, end in free, flattened knobs.

Wolff has examined the mode in which nerves terminate in muscle, and has arrived at the conclusion that the Doyarian eminences, or end-plates, are artificial products. The neurilemma of the nerve passes continuously, he believes, into the sarcolemma of the muscle, and the axis cylinder into the muscle-substance.

The duration of muscular contraction in different muscles of the same animal and in different animals has been made the subject of experiment by Dr. Cash, who has found, in agreement with Weber's previous observations, that some muscles contract under the same stimulus much more rapidly than others, and that temperature exerts a remarkable influence, a diminution of temperature greatly protracting the duration of the two phases of pulsation. He has also shown that the form of the curve presented by each muscle differs from that of others; and that in many instances the tracing is so constant and peculiar as to serve readily to indicate the muscle from which it is derived.

Professor C. M. Woodward, of Washington University, St. Louis, Missouri, has devoted a chapter of his work on the St. Louis Bridge to the review of the affections which the men employed in sinking the piers for the structure suffered from compressed air, and of the theories that were proposed to account for the trouble.

No serious drawback was perceived to working for four or even six hours consecutively in the air-chamber, till the cutting-edge of the caisson of the cast pier was nearly sixty feet below the surface of the river. From that time on it was found best gradually to shorten the working-time and make the rests longer, till the 5th of February, when a depth of sixty-five feet had been reached, and the work-time was made three watches of two hours each, with two-hour rests. The first effect noticed upon the men was a muscular paralysis of the lower limbs, without pain, which would pass off in a day or two, but which became more difficult to subdue, more extended and painful, as the caisson was sunk deeper. It was regarded as a subject for joking at first, but grew more serious by the middle of February, after which, the depth being seventy-six feet, severe cases became more frequent. The superintendent of the work noticed the fact that the sick men were often thinly clad and poorly fed. At the end of March, several persons having died within a few days shortly after coming out of the excavations, Dr. A. Jaminet was appointed to take medical charge of the men and establish suitable regulations for their well-being. He had been a frequent visitor to the air-chamber, had noticed the men as they came out, and had observed that their appearance was pallid and cold, that in some the pulse was quick but somewhat weak, while with others it was as low as sixty; that without exception the workmen complained of fatigue; that the pulse always quickened on entering the air-chamber, though it soon fell to the normal rate, and even lower; that the number of respirations increased, and a feeling of exhilaration came on in the air-chamber; and that the workmen sweated profusely during their stay in it, although the temperature was often below 60° Fahr. The air-lock was, as a rule, excessively warm when the pressure was increasing, and excessively cold when the pressure was diminishing. On the day the caisson touched the rock, when the pressure was forty pounds above the normal, Dr. Jaminet was conscious of a great loss of heat and a violent pain in his head, while in the air-lock on his way out, and afterward became partially paralyzed. Among six hundred men employed, one hundred and nineteen cases important enough to need medical treatment were reported at both piers, fourteen of which died and two were crippled. *Post-mortem* examinations were held in the case of eight. Dr. Clark, of the City Hospital in St. Louis, believed that the congestion observed was caused by the forcing of the blood in upon the interior organs of the body in consequence of the increased atmospheric pressure. Another physician thought the men were poisoned by carbonic acid which had been abnormally retained within the system while in the air-chamber, but which was set free as soon as the pressure was removed. Dr. Jaminet thought the affections were due to physical exhaustion

caused by breathing an atmosphere of quadruple strength. Professor Woodward does not contradict this theory, but suggests in addition that the vital energies of the men taken sick were to a great extent paralyzed by loss of heat, which was due—1. To the expansion of the air in the air-lock while coming out; 2. To the expansion of the free gases and vapors within the body when relieved of the normal pressure; 3. To the liberation of the gases held in solution by the liquids of the body; 4. To the severe physical effort of climbing the stairs. The loss of heat taking place under diminution of pressure from four atmospheres to one would, if no heat were received from surrounding objects, be enough to reduce the temperature from 70° above to 106° below zero. Dr. Jaminet gives an implied confirmation of these views by the remark that “the paresis is but the result of reflex action caused by the spontaneous refrigeration of the whole system, but principally of the abdominal organs.” It is also worthy of remark that none of the men were ever attacked on entering the caisson, and none were ever sick while in the air-chamber, but that the attack always came on within half an hour after leaving the air-lock, or at the time. In view of these experiences, Professor Woodward suggests, in regard to the management of men at work in compressed air, that only sound men should be employed, that they should be guarded against exhaustion, that they should not be exposed with unnecessary suddenness to the change from a compressed to a normal atmosphere, and that such a supply of heat should be given every man that he could lose a large amount and still have plenty left.

The literature of physiology has been marked by the appearance of numerous works, monographs, and papers on the general subject and its several departments. Among the more important of the works published during 1881 are W. Krause's supplement to his “*Handbuch der Menschlichen Anatomie*,” containing all recent additions to human anatomy, especially in regard to weights and measures, stated in a very concise manner; Robert Hartmann's (Berlin) “*Human Anatomy*”; Schwalbe's “*Lehrbuch der Neurologie*”; additional parts of Hermann's “*Handbuch der Physiologie*,” which it is predicted will constitute the fullest and in some respects the best work on physiology extant; a “*Text-Book of Physiology*” by Immanuel Munk, of the Veterinary School of Berlin, in which the physiological relations of the domestic animals are specially dwelt upon; new editions of Carpenter's “*Physiology*,” by Power, of Foster's “*Physiology*,” and of Beaunis's “*Elements of Physiology*”; Hoppe-Scyler's “*Physiological Chemistry*,” enriched with a part embracing the chemistry of the secretions and the general metabolism of the tissues. The bibliography for 1881, published in the “*Journal of Physiology*,” embraces in the department of “text-books, methods, etc.,” seventy titles; of general phys-

iology and the general properties of protoplasm and cells, twenty-nine titles; of general chemistry of tissues of animal and vegetable substances, seventy titles; of the structure and properties of cartilage, bone, and connective tissue, seventeen titles; of the blood, its structure and general features, thirty-seven titles; of circulation, fifty-nine titles; of the lymphatic system, ten titles; of respiration, twenty-two titles; of perspiration, one title; of the alimentary canal, digestion, etc., thirty titles; of the liver, bile, glycogen, etc., fourteen titles; of the kidneys, urine, etc., forty-two titles; of general metabolism of the body, twenty-nine titles; of animal heat, eleven titles; of the structure of contractile and nervous tissues, sixteen titles; of the general properties of contractile tissues, muscle, and nerve, forty titles; of the central nervous system, sixty-seven titles; of the eye and vision, seventy-seven titles; of the ear and hearing, nine titles; of the skin and touch, twelve titles; of taste, two titles; of smell, six titles; of speech and locomotion, one title each; of reproduction, etc., nineteen titles; of the action of drugs, etc., eighty-two titles; of ferments, germs, etc., sixty-seven titles. These works are in the English, French, German, Italian, Dutch, Swedish, and Danish languages. Those among them which appear as American publications are Professor H. N. Martin's “*The Human Body*,” Witkowsky's “*Human Anatomy and Physiology*,” Le Conte's “*Monocular and Binocular Vision*,” Deems's “*Hand-Book of Urinary Analysis*,” Stowell and Prudden's “*Histologies*,” Lloyd's “*Chemistry of Medicine*,” Hamilton's “*Significance of Facial Hair Growth among Insane Women*,” Prudden's “*Experimental Studies on the Transplantation of Cartilage*,” Mason's “*Microscopic Studies on the Central Nervous System of Reptiles and Batrachians*,” Clark's “*Brain Lesions and Functional Results*,” Dalton's “*Centers of Vision in the Cerebral Hemispheres*,” Ott's “*Inhibition of Sensibility and Motion*,” Warren's “*Columnæ Adiposæ*,” Ott's “*Physiological Action of the Active Principle of Piscidia Erythrina*,” Prudden's “*Action of Carbolic Acid on Ciliated Cells and White Blood-Cells*,” and Sternberg's accounts of experiments and investigations in the production of septicæmia by the subcutaneous injection of human saliva, on disinfectants, on the etiology of malarial fevers, and on bacteria in urine.

The accounts of physiological investigations are continually given as they are made in periodical publications which discuss the subject, either alone or in connection with affiliated sciences, of which the principal ones are the “*Journal of Anatomy and Physiology*,” the “*Journal of Physiology*,” “*Brain*,” the “*Quarterly Journal of Microscopical Science*,” and the “*Journal of the Royal Microscopical Society*,” in England; the “*Archives de Physiologie Normale et Pathologique*,” the “*Journal de l'Anatomie et de la Physiologie* de

l'Homme et des Animaux," the "*Gazette Médicale*," the "*Revue des Sciences Médicales*," and the "*Comptes Rendus*" of the Academy of Sciences, in France; the "*Archivs*" of Du Bois-Reymond and of Pfüger, the "*Zeitschrift für Biologie*," the "*Zeitschrift zur Anatomie und Physiologie*," Virchow's "*Archiv*," and numerous special publications in Germany; and the "*Archivio per le Scienze Mediche*," the "*Archivio per l'Anthropologia e la Etnologia*," and the "*Rivista di Frenatria*," in Italy; besides a number of publications in the Netherlands and the Scandinavian states.

PITURI. Pituri, pitury, pedgery, or bedgery, as it is variously called, is a sedative prepared from the dried leaves and twigs of an Australian plant possessing narcotic properties much resembling those of tobacco. It is probably the plant formerly known as *Anthocercis Hopwoodii*, or *Duboisia Hopwoodii* as classed by Baron von Müller, and recently named *Duboisia pituri* by Dr. Bancroft, belonging to the order of *Solanaceæ*. Pituri is obtained with difficulty from the blacks, who greatly prize it. The plant grows in the country of the Mulligan or Kycockodilla tribe, a part of the almost unexplored regions near the center of Australia. The dried pituri has a pale-brown color, and emits a smell resembling that of tobacco. Inhaled in the form of dust it causes sneezing. Its habitat is a district about one hundred miles broad and two hundred miles

long, lying between the twenty-third and twenty-fifth parallels of southern latitude, and extending on both sides of the boundary between New South Wales and South Australia. It is, as described by Bancroft, a shrub growing eight feet high, and having a stem sometimes six inches through at the base. The wood is light, close-grained, and of a lemon-color when newly cut, giving forth an odor like vanilla. The leaves are pointed at both ends, three inches long and one fourth of an inch wide. The flower has a small, funnel-shaped corolla spreading into five blunt divisions. The fruit consists of black berries. The natives chew pituri, first mixing it with the ashes of leaves, so that the alkaloid may not be liberated too rapidly. The effects seem to be similar to those induced by tobacco-smoking. Piturine is a volatile, oily alkaloid, of a dark-brown color, closely resembling duboisine, the alkaloid of *Duboisia myoporoides*, but differing in having a burning, acrid taste, and irritating the eyes and respiratory passages to a greater extent. It has an odor like that of tobacco. Petit, on analyzing a small quantity in Paris, came to the erroneous conclusion that it is identical with nicotine, with which alkaloid it has fewer analogies than with duboisine. The formula is C_6H_8N .

POPULATION, THE CENTER OF, IN THE UNITED STATES. This title, as it is used, is intended to indicate the center of gravity of the



population. To obtain this result, a definition is adopted by those who compile the Federal census, which is thus expressed: It "is the point at which equilibrium would be reached were the country taken as a plane surface, itself without weight, but capable of sustaining weight, and loaded with its inhabitants, in

number and position as they are found at the period under consideration, each individual being assumed to be of the same gravity as every other, and consequently to exert pressure on the pivotal point directly proportioned to his distance therefrom."

Thus understood, the center of population

in 1880 was found to be in latitude $39^{\circ} 4' 8''$, longitude $84^{\circ} 39' 40''$. This places it in Kentucky, one mile from the south bank of the Ohio River, and one and a half mile southeast of the village of Taylorsville. That is, it is eight miles west by south from the heart of the city of Cincinnati. This position is shown in the diagram on page 755.

The method by which this determination was made may be briefly explained.

A point was first assumed as nearly as possible to the true position of the center. Through this point a parallel of latitude and a meridian of longitude were drawn. In this case the center was assumed at the intersection of the parallel of 39° with the meridian of $84^{\circ} 30'$, which lines were taken as the axes of moments.

A north or south moment is the product of the population by its distance from the assumed parallel; an east or a west moment is the product of the population by its distance from the assumed meridian. In the first case the distances were measured in minutes of arc; in the second case it was necessary to use miles, on account of the unequal length of the degrees and minutes in different latitudes. The population of the country was then grouped by square degrees, i. e., by areas included between consecutive parallels and meridians, as they are convenient units with which to work. The population of one hundred of the principal cities was then deducted from that of their square degrees and treated separately. Then the population of each square degree was assumed to be at its geographical center, except in cases where this was manifestly an incorrect assumption. In these cases its position was estimated as nearly as possible. The population of each square degree, and of each city north and south of the assumed parallel, was multiplied by its distance from that parallel, and the sum of the north and of the south moments made up. Their difference, divided by the total population of the country, gave a correction to the latitude, the sign of the correction being positive if north, negative if south. In a similar manner the east and the west moments were made up, and from them the correction in longitude was made.

The above is, essentially, the method heretofore pursued for determining the center of population; and, for purposes of comparison, it was employed in 1880.

The center of population in 1870, as at the time of the census preceding, was computed by a method differing in some details from that above. For this purpose a point was assumed entirely outside of the country, and correction made therefrom to the true center. Instead of the square degree, the county was taken as a unit, and the lever-arm of the population of the county was taken as the distance from the geographical center of the county to the axes of moments. The labor involved in this method was much greater than that in the

last method, inasmuch as many more units were used, and as the length of the lever-arm differed in every case.

In 1790 the center of population was at $39^{\circ} 16' 5''$ north latitude and $76^{\circ} 11' 2''$ west longitude, which a comparison of the best maps available would seem to place about twenty-three miles east of Baltimore. During the decade of 1790 to 1800 it appears to have moved almost due west to a point about eighteen miles west of the same city, being in latitude $39^{\circ} 16' 1''$ and longitude $76^{\circ} 56' 5''$. From 1800 to 1810 it moved westward and slightly southward to a point about forty miles north-west by west from Washington, being in latitude $39^{\circ} 11' 5''$ and longitude $77^{\circ} 37' 2''$. The southward movement during this decade appears to have been due to the annexation of the Territory of Louisiana, which contained quite extensive settlements.

From 1810 to 1820 it moved westward, and again slightly southward, to a point about sixteen miles north of Woodstock, Virginia, being in latitude $39^{\circ} 5' 7''$ and longitude $78^{\circ} 33'$. This second southward movement appears to have been due to the extension of settlement in Mississippi and Alabama, and in Eastern Georgia.

From 1820 to 1830 it moved still westward and southward to a point about nineteen miles southwest of Moorefield, in the present State of West Virginia, being latitude $38^{\circ} 57' 9''$ and longitude $79^{\circ} 16' 9''$. This is the most decided southward movement that it has made during any decade. This appears to have been due in part to the addition of Florida to our territory, and in part to the great extension of settlements in Louisiana, Mississippi, and Arkansas, or generally, it may be said, in the South-west.

From 1830 to 1840 it moved still farther westward, but slightly changed its direction northward, reaching a point sixteen miles south of Clarksburg, West Virginia, being in latitude $39^{\circ} 2'$ and longitude $80^{\circ} 18'$.

During this decade settlement had made decided advances in the prairie States and in the southern portions of Michigan and Wisconsin, the balance of increased settlements evidently being in favor of the Northwest.

From 1840 to 1850 it moved westward, and slightly southward again, reaching a point about twenty-three miles southeast of Parkersburg, West Virginia, latitude $38^{\circ} 59'$ and longitude $81^{\circ} 19'$, the change of direction southward being largely due to the annexation of Texas.

From 1850 to 1860 it moved west, and slightly northward, reaching a point twenty miles south of Chillicothe, Ohio, this being in latitude $39^{\circ} 0' 4''$, longitude $82^{\circ} 48' 8''$.

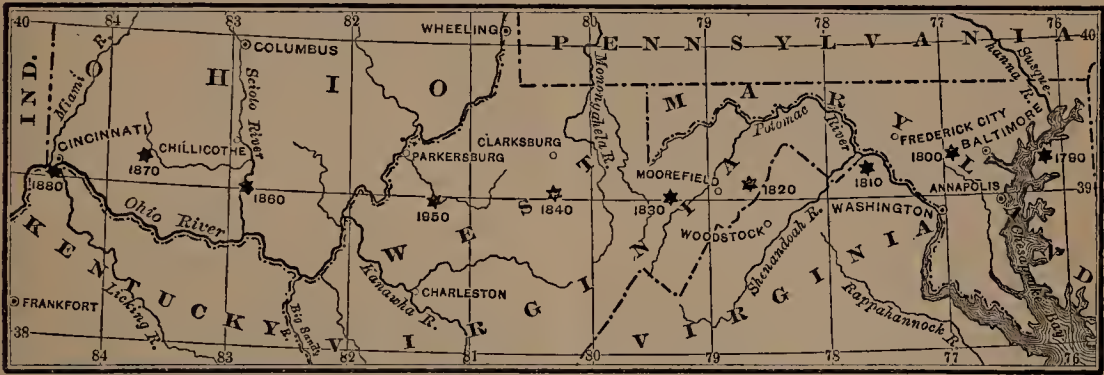
From 1860 to 1870 it moved westward and sharply northward, reaching a point about forty-eight miles east by north of Cincinnati. This northward movement is due in part to the waste and destruction in the South consequent upon the civil war, and in part, probably, to the fact that the census of 1870 was defective

in its enumeration of the Southern people, especially of the newly enfranchised colored population. In its present position, the center of population has returned southward nearly to the latitude which it had in 1860. This southward movement is, however, due only in part to the fact of an imperfect enumeration at the South in 1870. The Southern States have made a large positive increase during the decade, both from the natural growth of the existing population and from immigration in the Southwest.

The closeness with which the center of population, through such rapid westward movement as has been recorded, has clung to the parallel of 39° of latitude, can not fail to be noticed. The most northern point reached was at the start, in 1790; the most southern point was in 1830, the preceding decade having witnessed a rapid development of population in the Southwest—Alabama, Arkansas, Mississippi, and Louisiana having been admitted as States, and Florida annexed and organized as a Territory. The extreme variation in latitude

has been less than 19', while the ninety years of record have accomplished a movement of longitude of nearly 8½°. Assuming the westward movement to have been uniformly along the parallel of 39° latitude, the westward movement of the several decades has been as follows: 1790–1800, forty-one miles; 1800–1810, thirty-six miles; 1810–1820, fifty miles; 1820–1830, thirty-nine miles; 1830–1840, fifty-five miles; 1840–1850, fifty-five miles; 1850–1860, eighty-one miles; 1860–1870, forty-two miles; and 1870–1880, fifty-eight miles—a total westward movement of 457 miles. The sudden acceleration of movement between 1850 and 1860 was due to a transfer of a considerable body of population from the Atlantic to the Pacific coast, twelve individuals in San Francisco exerting as much pressure at the then pivotal point, viz., the crossing of the eighty-third meridian and the thirty-ninth parallel, as forty individuals at Boston.

The following cut, with the accompanying table, shows the movement of the center of population since 1790:



DATE.	North latitude.	West longitude.	Approximate location by important towns.	Westward movement during preceding decade.
	Deg. Min.	Deg. Min.		Miles.
1790.....	39 16.5	76 11.2	Twenty-three miles east of Baltimore, Maryland.....	..
1800.....	39 16.1	76 56.5	Eighteen miles west of Baltimore, Maryland.....	41
1810.....	39 11.5	77 37.2	Forty miles northwest by west of Washington, District of Columbia..	36
1820.....	39 5.7	78 33.0	Sixteen miles north of Woodstock, Virginia.....	50
1830.....	38 57.9	79 16.9	Nineteen miles west-southwest of Moorefield, West Virginia.....	39
1840.....	39 02.0	80 18.0	Sixteen miles south of Clarksburg, West Virginia.....	55
1850.....	38 59.0	81 19.0	Twenty-three miles southeast of Parkersburg, West Virginia.....	55
1860.....	39 0.4	82 48.8	Twenty miles south of Chillicothe, Ohio.....	81
1870.....	39 12.0	83 35.7	Forty-eight miles east by north of Cincinnati, Ohio.....	42
1880.....	39 4.1	84 29.7	Eight miles west by south of Cincinnati, Ohio.....	58
Total				457

PORTUGAL (REINO DE PORTUGAL), a kingdom in Southwestern Europe. King, Luis I, born October 31, 1838, the son of Queen Maria II and of Prince Ferdinand of Saxe-Coburg; succeeded his brother, King Pedro V, November 11, 1861; married October 6, 1862, to Queen Pia, born October 16, 1847, the youngest daughter of the late King Vittorio Emanuele of Italy. Issue of the union are Prince Carlos, Duke of Braganza, born September 28, 1863; and Prince Affonso, Duke of Oporto, born July 31, 1865.

The fundamental law of the kingdom is the "Carta Constitucional" granted by King Pedro IV, April 29, 1826, and modified by an additional act dated July 5, 1852. The crown is hereditary in the female as well as in the male line, but with preference of the male, in case of equality of birthright. The Constitution recognizes four powers in the state: the legislative, the executive, the judicial, and the moderating power, this last being vested in the sovereign. There are two legislative Chambers: the "Camara dos Pares," or House of

Peers, and the "Camara dos Deputados," or Chamber of Deputies, which together form the "Cortes Geraes," or General Cortes. The peers, unlimited in number, but actually comprising one hundred and thirty-three, are named for life by the sovereign, by whom also are nominated the President and Vice-President of the First Chamber. The members of the Second Chamber are chosen in direct election by all citizens possessing a clear income of 133 milreis (\$66.50). The deputies must have an income of at least 300 milreis (\$150) per annum, save in the cases of lawyers, professors, physicians, or the graduates of any of the learned professions, who need no property qualification.

The executive power resides, under the sovereign, in a responsible Cabinet divided into seven departments or ministries. The members of the Cabinet were as follows, in 1881: Minister of the Interior, Councilor Antonio Rodrigues Sampaio, President of the Council (March 25, 1881), and member of the Privy Council (1865); Minister of Foreign Affairs, Councilor Dr. E. R. Hintz Ribeiro, appointed April 5, 1881; Minister of Finance, Councilor L. V. de Sampaio e Mello, appointed March 25, 1881; Minister of Justice and Public Worship, Councilor A. de Barros e Sá; Minister of Public Works, Commerce, and Industry, Councilor Dr. E. R. Hintz Ribeiro; Minister of War, Colonel C. P. Sanchez de Castro; Minister of Marine and of the Colonies, Councilor Dr. J. Marques de Vilhena.

The Portuguese Minister Plenipotentiary to the United States is Viscount das Nogueiras, accredited October 8, 1878; and the Portuguese Consul-General for the Union at New York is Senhor A. M. da Cunha Soto Maior.

The United States *chargé d'affaires* in Portugal is Mr. B. Moran, accredited November 9, 1876; and the United States Consul at Lisbon is Mr. H. W. Diman.

The kingdom is divided into six provinces, which, with their areas and population, respectively, according to the census returns of December, 1868, and January 1, 1878, are as follows:

PROVINCES.	Area in square miles.	POPULATION.	
		Dec., 1868.	Jan., 1878.
Minho	2,671	988,995	1,015,394
Tras-os-Montes.	4,065	370,144	410,461
Beira	8,586	1,288,994	1,390,747
Estremadura	8,834	837,451	951,545
Alentejo	10,255	833,237	874,503
Algarve	2,099	177,342	205,901
Totals	36,510	3,996,163	4,348,551

In this enumeration is included the population of the so-called adjacent islands (Azores), represented in 1878 at 390,384.

To the foregoing should be added the colonial possessions of Portugal in Africa, Asia, and Oceania, the area and population of which, according to official returns referring to 1871-'79, were as follows:

COLONIAL POSSESSIONS.	Area in sq. miles.	Population.
AFRICA.		
Cape Verde Islands (1879).....	1,650	99,317
Senegambia, Bissão, etc. (1873).....	26	9,282
Prince's and St. Thomas's Islands (1878)	454	20,931
Ajuda (1873)	13	4,500
Angola, Ambriz, Benguela, and Mossamedes	312,569	2,000,000
Mozambique and dependency	382,683	350,090
Total in Africa	697,335	2,484,030
ASIA.		
India—Goa, Salsette, Bardes, etc. (1877)	1,447	392,604
Daman, Din (1877)	158	52,383
Indian Archipelago	5,527	300,000
China—Macao, etc. (1871).....	28	77,230
Total in Asia	7,160	822,217
Total colonies	709,495	3,306,247
Grand totals for Portugal, continental and colonial.....	746,005	6,882,581

The cities of Portugal with a population of upward of 10,000 each, in 1878, are as below:

CITIES.	Population.	CITIES.	Population.
Lisbon	233,389	Evora	18,461
Oporto	108,346	Tavira	11,636
Funchal	20,606	Angra	11,263
Braga	20,258	Cavilha	10,986
Coimbra	19,374	Elvas	11,206
Ponta Delgada	17,940	Povoá de Vazim	11,004
Setubal	15,598	Ovar	10,447
Loule	14,862		

By the terms of a law passed June 23, 1864, the strength of the army was fixed at 30,128 on the peace footing, and 68,450 on the war footing. But financial considerations restrict the actual strength (July 1, 1880) to 18,185 rank and file, consisting chiefly of infantry, the cavalry numbering but 2,497, and the artillery 1,385, officers and men. The troops in the Portuguese colonies number 8,500 infantry and artillery, exclusive of a reserve of 9,500 men.

The navy, in 1880, was composed of 24 steamers and 14 sail of the line, most of the latter laid up in port. The steam craft comprised 9 corvettes (one iron-clad), 12 gunboats, and 6 sloops, with an aggregate armament of 139 guns, and a total of 4,460 horse-power. There were (1880) in the navy 262 officers of all ranks, 1 vice-admiral and 11 rear-admirals, and 3,307 men.

In the budget approved by the General Cortes for the fiscal year ending June 30, 1882, the estimated revenue and expenditure, in contos and milreis (1 conto = 1,000 milreis; 1 milreis = \$1.08; 5,624:448 means 5,624 contos and 448 milreis), figured as shown in the following table:

REVENUE.

1. Direct taxes	6,606 : 630
2. Stamps and register duties	3,075 : 200
3. Indirect taxes (customs, etc.).....	15,210 : 770
4. National domain	2,578 : 734
5. Sundries	1,104 : 678
6. Receipts extraordinary (loan of 1878).	2,215 : 000

Total

30,794 : 012

EXPENDITURE.

1. Public debt.....	13,089 : 011
2. Ministry of Finance.....	5,789 : 588
3. " of the Interior.....	2,291 : 451
4. " of Worship and Justice.....	627 : 872
5. " of War.....	4,373 : 838
6. " of Marine and Colonies.....	1,607 : 411
7. " of Foreign Affairs.....	267 : 941
8. " of Public Works.....	2,538 : 586
9. Expenditures extraordinary.....	3,593 : 000

Total..... 84,478 : 143

The national debt, on June 30, 1879, stood at 387,659 : 575 milreis, against 374,122 : 000 in 1878.

"According to a report of the Minister of Finance, laid before the Cortes in the session of 1879," says a British statistician, "the total funded debt of Portugal amounted to 374,122 contos of reis, or £83,137,702, on the 30th of June, 1878. Of this total, the home debt was represented by 220,264 contos of reis, or £48,947,248, and the foreign debt by 153,858 contos of reis, or £34,190,452. The funded debt of Portugal, per head of population, is, by this statement, nearly as large as that of the United Kingdom, the quota of debt for each inhabitant amounting to £22 10s., and the annual share of interest, at 3 per cent, to 13s. 6d. Besides the funded debt there is a large floating debt, estimated variously at from £2,500,000 to £4,000,000 sterling. The largest portion of the foreign debt of Portugal consists of three loans raised in 1877, in 1878, and in 1880. The first of these, a foreign loan of £6,500,000 nominal at 3 per cent, was issued at 50. Only £3,000,000 of this loan was subscribed at the time. This was followed by the issue of another foreign loan of £2,500,000 on the same terms, in July, 1878, and finally by a foreign loan of £4,000,000, issued in December, 1880. The floating debt of Portugal has been increasing in recent years, although its gradual extinction was decreed in 1873, when the Government raised a loan for this special object. This loan, issued in September, 1873, was in bonds for the nominal amount of £8,500,000, at 3 per cent, the issue-price being 43½ per cent. The interest on the public debt has remained frequently unpaid. Portions of the national debt have also been repudiated at various periods; among others the loan contracted by Dom Miguel in 1832. At times, as in the year 1837, the interest on the home debt has been paid, but not that on the foreign debt. By a royal decree of December 18, 1852, the interest on the whole funded debt, internal and foreign, was reduced to 3 per cent. Many of the creditors protested against this act, but without effect. On the 19th of June, 1867, the Chamber of Deputies approved a bill presented by the Government for raising 37,000,000 milreis to fund the floating debt, and to negotiate 3 per cent external bonds at such a price that the interest shall not exceed ¾ per cent above the rate of the actual stock."

The trade of Portugal in 1879 was as follows (in contos):

COUNTRIES.	Imports.	Exports.
Great Britain.....	12,678	10,554
France.....	4,265	1,163
Spain.....	2,452	1,188
Germany.....	1,628	779
Belgium.....	1,190	431
Sweden and Norway.....	904	147
Russia.....	545	124
Netherlands.....	410	164
Italy.....	279	245
United States.....	598	346
Brazil.....	2,154	4,332
Portuguese colonies.....	723	719
Other countries.....	829	870
Total 1879.....	34,046	20,502
Total 1880.....	32,215	20,102

The transit trade and the re-exports in 1879 amounted to 5,661 contos. The chief imports and exports in 1879 were as follows: Articles of food, imported, 17,408 contos; exported, 13,390 contos: raw materials and manufactured goods, imported, 16,638 contos; exported, 7,112 contos.

As more than one half the total foreign trade of the country is with Great Britain, it may be safely assumed that the greater portion of the foreign cottons imported are British. The imports of raw cotton into Portugal are so insignificant as to lead at once to the conclusion that the cotton-manufacturing industry of the country is of very little moment, if there is any such industry. The exports of cotton manufactures from Great Britain to Portugal, during the year 1880, were as follows:

DESCRIPTION.	Quantity.	Value.
Twist and yarn.....	None.	None.
Plain piece-goods, yards.....	59,641,900	\$3,208,000
Printed piece-goods, yards.....	9,898,200	753,000
Total piece-goods.....	69,539,200	3,956,000
Sewing-thread.....	.....	160,000
All other.....	.....	84,000
Total.....	.....	\$4,150,000

The exports of cotton goods from France to Portugal amount to about \$200,000, of which only about one half represents French manufactures, the remainder being goods in transit through France. There is an export of American cottons, valued at \$1,200, noted in our customs returns for the year 1880, which shows that our merchants are at least endeavoring to introduce their goods into that market. Our exports to Portugal of all products and manufactures amounted, in 1880, to \$4,586,000, and our cotton manufactures should be able to establish a trade in that country, whose imports of foreign cottons are nearly double the imports of Spain. The average price of British cottons exported to Portugal, as above, would lead to the opinion that the grade, especially in plain goods, is very low, viz., plain piece-goods, 5·37 cents per yard; printed goods, 7·60 cents per yard. These remarks on the cotton-goods trade were published by the Department of State at Washington in 1881.

The shipping movements for 1879 were as follows: Sailing-vessels, entered, 7,165; cleared,

7,826; steamers, entered, 1,869; cleared, 2,083. The merchant navy, in 1880, consisted of 498 vessels, including 42 steamers. The total length of railways in operation in September, 1880, was 780 miles, and there were 280 miles more in course of construction. The number of post-offices in September, 1880, was 863, of which 47 were on the islands.

The total length of telegraph lines, continental and insular (Azores), in 1878, was 2,660. The number of offices in September, 1880, was 191, seven of these being in the Island of Madeira.

Considerable irritation prevailed throughout the kingdom in March, 1881, against the authorities at Lisbon, who, without sufficient provocation, dispersed a crowd issuing from a meeting hostile to the Cabinet. In the Chamber of Peers the Opposition brought forward a vote of censure on the Government on account of the Lorenzo-Marques (Delagoa Bay) Treaty, and their hostile attitude was approved by the Portuguese press. The King received delegates from meetings held at Oporto, Braga, Regoa, and Coimbra. The resistance against the Lorenzo-Marques Treaty and against the income-tax continuing persistently, it was resolved by the Cabinet to take severe measures against the popular demonstrations, which were every day getting more violent and more anti-dynastic.

The Cortes were adjourned on March 30th till the 1st of June, with the avowed purpose of shelving the Delagoa Bay Treaty which was certain to pass the House of Peers within a week had the Houses continued sitting. The ministry, which had thus declared against the treaty, was presided over by a member of the Cabinet which negotiated the treaty. Three of its members refused to vote for the treaty in the Chamber of Deputies. Fresh negotiations were demanded by public opinion, which had taken up the cause of Transvaal independence. Thus the question was postponed *sine die*.

In October their Majesties of Portugal were visited by the King and Queen of Spain. The meeting took place on the morning of the 8th, at the village of Valencia de Alcántara. The interview had no political significance, but was only regarded as a friendly meeting of neighboring monarchs to lend *éclat* to the inauguration of a new railway line of the Madrid, Cáceres, and Portugal Company, by which the distance separating the respective capitals is reduced by about one third. After breakfast the royal train left for Cáceres. Here the reception was truly enthusiastic, and never, perhaps, has King Alfonso had more reason to congratulate himself on the loyalty of his people.

PRESBYTERIAN. THE CASE OF PROFESSOR W. ROBERTSON SMITH.—The case of Professor W. Robertson Smith came up before the General Assembly of the Free Church of Scotland on the presentation of the action of the Commission of the General Assembly in October, 1880, suspending him from the exercise of

his functions as a professor in the College of Aberdeen, and was also brought forward in thirty-seven overtures relative to some of its aspects. The history of this case during 1880 has already been given in the "Annual Cyclopædia" for 1880, but it may help to an understanding of the further proceedings briefly to review it. Shortly after Professor Smith had received the admonition of the General Assembly for the publication of expressions in his article on the Bible in the "Encyclopædia Britannica," which the Assembly considered too loosely and inconsiderately made, and had agreed to respect the wishes of the Assembly, another volume of the Encyclopædia had appeared with articles by Professor Smith on "Haggai" and "Hebrew Language and Literature," containing expressions of a similar character to those which had been considered objectionable in the former article. Professor Smith had explained that these articles had been written and were in process of publication, and beyond his power to recall them, before the Assembly had taken its action, and whatever lack of respect they might seem to show to that action was only apparent; but the subject attracted the attention of the Church, and was referred, in due form, to the commission. The attention of this body was also drawn to an article on "Animal Worship and Animal Tribes among the Arabs and in the Old Testament," which was published in the "Journal of Philology." The committee of the commission to whom the subject was referred reported, October 27th, that—

"The questions raised by these writings of Professor R. Smith are questions which affect that authority of the Supreme Standard of the Church which is asserted in, and assumed throughout, the 'Confession of Faith.' The committee do not impute to Professor R. Smith the intention of assailing the integrity and authority of Scripture in the writings they have examined, but the statements made by him in many particulars are such as are fitted, and can hardly fail, to produce upon the minds of readers the impression that Scripture does not present a reliable statement of truth, and that God is not the author of it; and it greatly concerns the character and credit of the Free Church to make it clear, in opposition to any such impression, that she holds firmly, and will maintain, the infallible truth and authority of Scripture as the Word of God."

In proof of this, they cited passages in which, in their opinion, (1) the books of Scripture were spoken of in an irreverent manner; (2) in which the books of Scripture were spoken of in such a way as to render it very difficult for readers to regard God as the author of them; (3) which naturally suggested that Scripture did not give an authentic narrative of facts or actual occurrences; and (4) which discredited prophecy in its predictive aspect.

Professor Smith's explanation of his conduct was pronounced untenable, and the commission decided, by a vote of 270 to 202, to remit the matter to the Presbytery of Aberdeen, to protest against the Free Church being implicated in the promulgation of such principles, and, pending the transmission of its report to the Assembly, to instruct Professor Smith not to teach his classes during the winter ses-

sion. A numerousy-signed protest was lodged against this decision, founded on constitutional grounds. Of the overtures that were sent in to the Assembly on the subject, seventeen asked that body to disapprove the action of the commission, or expressed grave concern, from a constitutional point of view, at it; while the others asked the Assembly to approve the action, or commented adversely on Professor Smith's writings.

When the case came before the Assembly, Sir Henry Moncrieff moved—

That the General Assembly, having considered overtures relating to the case of Professor Smith, in so far as they refer to the action of the commission in August and October, and the memorials on the same subject, find that there is no occasion for interfering with the action of the commission, but that the report of its committee furnishes materials which call for earnest attention; further, instruct the clerks in preparing the act for appointing a new commission to frame it in the same terms in which similar acts have been framed since 1844.

The Rev. G. W. Thomson, of Glasgow, moved that—

The General Assembly, while recognizing the right of the commission to advert to the writings of Professor W. Robertson Smith issued since last Assembly, regards its procedure in his case at the meeting of October 27th as unnecessary; as in the divided state of the Church unwise, as contrary to the spirit of the instructions under which it acted, and as a dangerous precedent; and, therefore, can not approve of said procedure, and finds accordingly.

Sir Henry Moncrieff argued in support of his motion that many who had voted in favor of Professor Smith at the previous General Assembly were misled, and that the result of its action might have been different had the article on "Hebrew Language and Literature" been before them. Mr. Thomson called attention to the disadvantage under which his motion rested in the fact of the presence of leading men in the Assembly who had acted in the commission, and would be reviewing their own proceedings. Professor Smith appealed to the Assembly to vote on the question without prejudice as to the merits of the case, which would come up at a future session, and declared that he meant in all good faith that submission and that desire for peace which he had expressed at the previous General Assembly. Sir Henry Moncrieff's motion was adopted by a vote of 439 to 218 for the motion of Mr. Thomson. Principal Rainey made the following motion:

The General Assembly having had their attention called, by the judgment of the commission in October, and by overtures from presbyteries, to certain writings of Professor Smith, and in particular to an article, "Hebrew Language and Literature," in the "Encyclopædia Britannica";

And considering that said article was prepared for publication by Professor Smith after he had accepted service of libel on account of previous statements made by him on cognate matters;

And considering that said article was not before last Assembly when they pronounced judgment on said libel, because it did not appear until after the Assembly had risen, and the professor, in accepting

admonition as to the unguarded and incomplete character of previous utterances, gave no indication of its being in existence;

And having in view also a letter from Professor Smith to the Free Presbytery of Aberdeen, in which he explains and defends his conduct in relation to that article—Find,

1. That the construction of last Assembly's judgment in Professor Smith's case, on which, in his letter, he claims that the right was conceded to him to promulgate his views, is unwarrantable; the Assembly therefore repudiate that construction, and adopt the statement on this subject contained in the report submitted to the commission in October.

2. That the article "Hebrew Language and Literature" is fitted to give at least as great offense, and cause as serious anxiety, as that for which he was formerly dealt with.

3. That it contains statements which are fitted to throw grave doubt on the historical truth and divine inspiration of several books of Scripture.

4. That both the tone of the article in itself, and the fact that such an article was prepared and published in the circumstances, and after all the previous proceedings in his case, evince, on the part of Professor Smith, a singular insensibility to his responsibilities as a Theological Professor, and a singular and culpable lack of sympathy with the reasonable anxieties of the Church as to the bearing of critical speculations on the integrity and authority of Scripture.

5. That all this has deepened the conviction already entertained by a large section of the Church, that Professor Smith, whatever his gifts and attainments, which the Assembly have no disposition to undervalue, ought no longer to be intrusted with the training of students for the ministry.

Therefore, the General Assembly, having the responsible duty to discharge of overseeing the teaching in the Divinity Halls, while they are sensible of the importance of guarding the due liberty of professors, and encouraging learned and candid research, feel themselves constrained to declare that they no longer consider it safe or advantageous for the Church that Professor Smith should continue to teach in one of her colleges.

This was made the special subject of a whole day's sitting, May 24th. Dr. Whyte, of Edinburgh, moved that, in view of the gravity of the issues involved, the importance of maintaining the doctrine of the Free Church respecting the authority and inspiration of the Bible, and the right of every member and minister against whom grave charges are made to be dealt with constitutionally, a committee be appointed to consider the writings of Professor Smith published since the last Assembly, with power, if they should see cause, to prosecute him before the Presbytery of Aberdeen. Principal Rainey, speaking in support of his motion, declared that the same convictions which had been found objectionable in the article on the Bible were found restated in the article "Hebrew Language and Literature" with not less trenchant force and decision; that the same want of care to vindicate the divine element of the Bible was shown; that all the questions connected with the date of the Levitical legislation were involved, and that Professor Smith was now inclined to take a more decided position concerning a late date. The case was one of complications which could not be reached by a libel; and it seemed to him that the best way for the Church to prepare to meet the issues waiting for it was to refuse to sanction the

teaching of "large and loose views" in its halls. Dr. Whyte believed that Professor Smith's position, broadly stated, was that he had thought he saw the opportunity, and, perhaps, too eagerly and adventurously seized upon it, of outflanking the great enemy of the Church, the unbelieving, disintegrating, and hostile criticism of the great foreign schools. He was fitted by gifts, by learning, by loyalty, by descent, by personal piety, to serve them as very few men in any generation possibly could; "and they were sitting there deliberating how they could most speedily cast him over their walls, to the scorn and rejoicing of their besieging enemy." Surely, the Free Church of Scotland would not brand herself before the future and before Christendom as such a hard-hearted, short-sighted, panic-stricken mother to her loyal-hearted, if somewhat adventurous, son. Professor Smith objected to the vague way of dealing with his case which had been followed, and remarked that none of his accusers had named the points of his writings which were objectionable. After defending his views on inspiration as not dangerous to faith, he said that he did not think it would be right to write such an article as the one on "Hebrew Language and Literature" now. Not because he thought there was anything wrong or heretical in it, but because he did not think it would be a right and eharitable thing to write such an article as that after the solemn circumstances through which they had passed. He reiterated his explanation, that the article was entirely out of his hands when the previous assembly met—printed, and most of the copies bound—and remarked that if, when he published it, he had had before him all that emerged later, as to the heart of the Church on this case, all that had since touched him and brought him to feel more than he felt before how glad and how privileged he would be to continue in the work of the Church, he should have hesitated to do anything to bring about dispeace and strife and contention. He had prepared the article with reference to a purely philological point—Hebrew language—and, at the suggestion of the editor of the Encyclopædia, had given a brief *résumé* of the epochs of the literature, since it was connected with the language. He had not felt that that was an unreasonable thing to do; but if he had known, when he wrote that article, which was completely out of his hands before the last Assembly, the heart of the Assembly and the Church, as he did now, he should not, under a feeling that he had engaged in a literary enterprise, have done what had caused pain to many whom he esteemed and valued. He had gone on writing on critical questions all through the time of the libel, because one of his contentions was that it was not desirable that ministers and office-bearers should be held back from taking part in scientific labors of that kind, in a work of the highest respectability and credit. Principal Rainey's motion was

adopted by a vote of 423 to 245 for that of Dr. Whyte. A dissent to this action was filed by Dr. Candlish and several other members. Dr. Adam afterward presented a motion declaring that from the 31st of May, 1881, Professor Smith's tenure of his chair should cease as regarded all right to teach and exercise professional functions in the College of Aberdeen, and as regarded all ecclesiastical rights and powers grounded on his professional charge, but providing for a continuance of his salary, pronouncing his chair vacant, and directing steps to be taken for the election of a new professor. Professor Bruce moved that the Assembly, considering that the summary removal of Professor Smith from his chair would be an act inconsistent with the scriptural principles of discipline and the form of process hitherto observed in the Church, and would contribute nothing to the settlement of the vital questions involved, decline to give effect to the resolution of Dr. Adam. The motion of Dr. Adam was adopted, after an argument by Professor Smith to show that the action contemplated would be unconstitutional, by a vote of 394 to 231 for the motion of Professor Bruce.

PRESBYTERIANS. I. PRESBYTERIAN CHURCH IN THE UNITED STATES OF AMERICA.—The following is a summary of the statistics of this Church, as they were published in connection with the Minutes of the General Assembly for 1881:

SYNODS.	Ministers.	Churches.	Communicants.
Albany.....	164	133	19,369
Atlantic.....	74	124	10,627
Baltimore.....	141	147	16,511
Central New York.....	161	163	21,053
China.....	38	23	2,031
Cincinnati.....	158	157	20,003
Cleveland.....	135	162	20,903
Colorado.....	67	76	3,077
Columbia.....	40	53	2,305
Columbus.....	123	177	17,405
Erie.....	181	252	30,680
Geneva.....	127	102	14,408
Harrisburg.....	154	176	21,910
Illinois, Central.....	137	176	15,771
Illinois, North.....	163	149	17,573
Illinois, South.....	102	153	9,482
India.....	41	20	854
Indiana, North.....	85	148	11,900
Indiana, South.....	110	159	15,773
Iowa, North.....	121	159	8,924
Iowa, South.....	129	196	11,888
Kansas.....	196	299	12,044
Kentucky.....	62	84	6,061
Long Island.....	94	68	16,885
Michigan.....	169	174	16,156
Minnesota.....	116	142	7,419
Missouri.....	122	210	11,253
Nebraska.....	82	129	4,638
New Jersey.....	363	275	45,957
New York.....	312	168	37,591
Pacific.....	127	122	8,253
Philadelphia.....	372	301	52,050
Pittsburg.....	163	193	26,414
Tennessee.....	41	56	8,508
Texas.....	28	40	1,143
Toledo.....	79	111	10,015
Western New York.....	179	158	21,073
Wisconsin.....	112	138	8,484
Total.....	5,086	5,598	581,401

The footings of the several items of the

year's statistical reports compare with those of the previous three years as follows:

	1878.	1879.	1880.	1881.
Synods.....	37	38	38	38
Presbyteries.....	173	179	177	177
Candidates.....	636	614	600	622
Licentiates.....	331	306	294	301
Ministers.....	4,901	4,988	5,044	5,086
Licensures.....	178	187	152	157
Ordinations.....	157	142	153	144
Churches.....	5,269	5,415	5,489	5,598
Churches organized....	164	160	159	90
Added on examination...	32,277	29,196	26,888	25,344
Communicants.....	567,855	574,486	578,671	581,401
Baptisms, adults.....	11,610	10,018	9,232	8,179
“ infants.....	19,226	18,501	18,960	17,434
Sunday-schools, members.....	599,822	614,774	631,952	633,564
CONTRIBUTIONS.				
	Dollars.	Dollars.	Dollars.	Dollars.
Home missions.....	388,434	390,635	429,769	458,093
Foreign missions.....	370,772	331,658	420,427	475,626
Education.....	95,847	89,555	109,066	190,799
Publication.....	30,781	29,715	27,688	33,015
Church erection.....	97,565	124,477	151,315	158,281
Relief fund.....	52,268	57,328	57,780	63,454
Freedmen.....	43,583	43,969	45,497	69,097
Sustentation.....	19,946	17,379	20,349	21,570
General Assembly.....	40,452	40,323	42,044	43,023
Congregational.....	3,333,659	6,311,768	6,098,150	6,338,579
Miscellaneous.....	818,649	779,635	954,943	817,744
Total.....	3,281,956	3,260,013	3,861,028	3,674,291

The several boards reported to the General Assembly in May, 1881, concerning the several interests intrusted to their charge, in effect as follows:

The *Board of Education* had received \$62,124, and had paid its debt of \$9,500. Four hundred and thirty-one candidates had been aided, 57 of whom were colored students, and 26 were of German birth.

The *Board of Publication* had received \$232,651, and the aggregate of its sales had been \$161,329, both items showing an increase.

The thirteen *theological* seminaries under the care of the General Assembly returned the aggregate value of their real estate at \$1,333,050, and of their endowment funds at \$5,208,531, and had a total annual income of \$263,526. They were served by 54 professors and 11 teachers and lecturers, and were attended by 536 students.

The entire receipts of the *Board of Relief* for the year had been \$111,865, of which \$30,183 were in the form of additions to its permanent funds. Four hundred and seventy families had received aid.

The receipts of the *Freedmen's Committee* had been \$68,711. Sixty-five ordained ministers, 51 of whom were colored, and a total, including these ministers, catechists, and teachers, of 162 agents, 127 of whom were colored, had been engaged in its work. Eight churches had been organized during the year, making the whole number of churches under the care of the committee 159; and in these 11,555 communicants were enrolled, with 9,225 children in Sunday-schools. The educational work of the committee comprised 52 common schools, with 94 teachers and 5,340 pupils, and 5 institutions of a higher grade, with 1,527 stu-

dents, giving a total of 7,112 pupils in all the schools.

The *Board of Home Missions* had received in all \$345,911, of which \$38,361 had been contributed by the Women's Home Mission societies, and \$40,000 had been given for school-work. It had also had in its hands available for sustentation \$52,792. It had disbursed \$333,380 for Home Missions and \$27,059 on account of sustentation, and had supported 1,217 missionaries. The missionaries had organized 156 churches and 224 Sunday-schools, and reported the addition of 4,979 members to the churches by confession of faith, and a total of 105,524 Sunday-school scholars.

The receipts of the *Board of Foreign Missions* from April 30, 1880, to April 30, 1881, had been \$590,680, and its expenditures during the same time had been \$581,515. It returned in the various missions under its charge 130 American missionaries and 200 native ministers (ordained and licentiate), 233 American and 536 native lay missionaries, 14,588 communicants, and 18,260 scholars in boarding and day schools. The communicants and scholars were distributed among the several missions as follows: Indian tribes (Senecas, Chippewas, Omahas, Dakotas, Creeks, Seminoles, and Nez Percés), 1,256 communicants, 385 scholars; Mexico, 5,031 communicants, 609 scholars; South America (United States of Colombia, Brazil, and Chili), 1,191 communicants, 400 scholars; Africa (Liberia, Gaboon, and Corisco), 599 communicants, 230 scholars; India, 951 communicants, 8,244 scholars; Siam, 280 communicants, 276 scholars; China, 1,995 communicants, 1,210 scholars; Chinese in California, 137 communicants, 215 scholars; Japan, 761 communicants, 160 scholars; Persia, 1,510 communicants, 2,296 scholars; Syria, 877 communicants, 4,235 scholars.

The *General Assembly* of the Presbyterian Church in the United States of America met in its ninety-third session at Buffalo, New York, May 19th. The Rev. Henry Darling, D. D., of Albany, New York, was chosen Moderator. An order was passed to omit all honorary and academical titles from the minutes of the proceedings. Two overtures with reference to the reorganization of the Synods of the Church that had been sent down by the previous General Assembly, having been approved by a majority of the presbyteries, were declared adopted. One of them permits the synods, at their own option, to be composed of all the bishops and one elder from each church in their several districts, or of equal delegations of bishops and elders elected by the presbyteries on a basis and in a ratio to be determined by the Synod itself and its presbyteries. The other gives the Synod power to decide finally on all appeals, complaints, and references that do not affect the doctrine and constitution of the Church. A measure for the consolidation of synods, by uniting all the existing synods in each State into a single syn-

od, to be called after the name of the State, was adopted. The Synod of the Pacific, including the State of California, was, however, allowed to retain its name. A committee which had been appointed to inquire into the causes of the existence at the same time of more than one thousand vacant churches and about four hundred unemployed ministers in the denomination and suggest a remedy, reported that among the principal reasons were the want of an adequate support for the ministry, and a want of system in bringing those who are able and willing to work and the vacant churches together, and proposed for meeting the second cause a scheme by which each presbytery (orsynod, if a synodal system should be anywhere preferred) shall keep a list of the vacant churches and unemployed ministers within its bounds, and provide for the systematic stated supply of the former by the latter, in rotation. A "Permanent Committee on the Presbyterian Alliance," to consist of three ministers and two elders, was appointed to serve as a medium of correspondence with the Council of the Alliance. A committee which had been appointed by the previous General Assembly to present a memorial to the officers of the national Government having the interest of the Indians in charge, recommending as the best ways to elevate the Indians the providing of them with fixed homes in fee simple, the protection of the laws and responsibility to them, education, and religious liberty, reported that they had performed the duty imposed upon them, and recommended the continuance of a committee on the subject. A permanent committee was appointed to promote the interests of Indian civilization and methodical work in behalf of it. Reports were adopted condemning the opium trade with China and approving the treaty of the United States with that country for its suppression, and urging effective governmental action against polygamy. To an overture from a presbytery respecting the use of unfermented wine in the administration of the Lord's Supper, the Assembly answered that it was to the Church sessions to decide what is bread and what is wine, and that no new legislation was needed in the matter. The Standing Committee on Systematic Benevolence reported that its plan had been adopted by all but seven out of the thirty-eight synods, and all but two out of one hundred and seventy-five presbyteries, and that the contributions to the treasuries of the several boards of the Church had been increased by amounts ranging from about \$3,000 to \$50,000 each. A "Permanent Committee on Education in the West" was appointed, to have charge of the establishment and endowment of new institutions of learning in places where they may be needed, "with special reference to the supply of missionaries and teachers for the frontier." The establishment of a theological college at Allahabad, India, by the Presbyterian Alliance of that country was approved.

II. PRESBYTERIAN CHURCH IN THE UNITED STATES.—The following is the summary of the statistics of this Church, as published in connection with the "Journal of the Proceedings of the General Assembly for 1881." The statistics for 1880 are added for comparison:

	1880.	1881.
Synods.....	12	12
Presbyteries.....	67	67
Candidates.....	145	144
Licensures.....	79	72
Ministers.....	1,060	1,061
Churches.....	1,928	1,857
Licentiates.....	53	29
Ordinations.....	38	28
Installations.....	82	69
Churches organized.....	47	38
Ruling elders.....	5,721	5,933
Deacons.....	3,811	3,908
Added on examination.....	5,920	4,839
Total of communicants.....	120,028	121,915
Adults baptized.....	1,892	1,578
Infants baptized.....	4,705	4,143
Baptized non-communicants.....	29,397	31,254
In Sabbath-schools.....	74,902	74,420
CONTRIBUTIONS.		
Sustentation.....	\$32,128	\$31,768
Evangelistic.....	15,233	16,474
Invalid fund.....	10,384	9,887
Foreign missions.....	59,577	41,893
Education.....	26,012	51,888
Publication.....	8,796	8,720
Presbyterial.....	12,948	12,950
Pastors' salaries.....	522,869	526,420
Congregational.....	386,692	325,013
Miscellaneous.....	47,099	83,688
Total.....	\$1,062,388	\$1,114,676

The committee having in charge the schemes of the Church reported to the General Assembly concerning the condition of the same, in substance as follows:

The *Committee on Education* had received \$10,333, and had aided eighty students.

The *Publication Committee* reported that its receipts had been \$8,009. The accounts of the Publication House showed that it had assets amounting to \$56,710, and its total liabilities were \$36,966.

The *Committee on Home Missions* had received \$46,302 for all the funds under its charge, including \$18,526 for sustentation, \$10,858 for evangelistic work, \$597 for the Colored Evangelistic Fund, \$10,428 for the Invalid Fund, \$5,971 for the Relief Fund. Thirty-six evangelists had been employed in their special departments of work; twenty-five colored churches, or seven more than in the previous year, had been under the care of the presbyteries, with sixteen ministers and licentiates, seven candidates, and thirty-seven Sunday-schools. Twenty-nine aged and infirm ministers, and seventy-six families of deceased ministers, had been aided from the Invalid Fund. Annuities had been paid from the Relief Fund to the families of eight deceased ministers.

The Directors of *Columbia Theological Seminary* reported that more than \$30,000 had been contributed toward the endowment of the institution, and that its present income was about \$8,000.

The *Institute for the Training of Colored Ministers*, at Tuscaloosa, Alabama, had been attended by twenty-three students, eight of whom were Presbyterians, five Baptists, and ten Methodists, one of whom had entered the Presbyterian ministry.

The receipts of the *Committee of Foreign Missions* for the year had been \$59,215, or \$10,737 more than for the previous year; the committee was in debt to the amount of \$12,000; and it owned property in foreign lands valued at \$75,000. Eighteen ordained ministers and one missionary physician, with twenty-six American and thirty-four native assistants, were engaged in the service of the missions.

The *General Assembly* of the Presbyterian Church in the United States met at Staunton, Virginia, May 19th. The Rev. R. P. Farris, D. D., of St. Louis, Missouri, was chosen Moderator. The most important subject considered was that of retrenchment and reform in the administration of the benevolent funds of the Church, which was brought before the Assembly in majority and minority reports of a committee that had been appointed by a previous General Assembly to consider it. The majority report advised against any important change in the plan of administration, except in the department of relief. The report of the majority recommended the abolition of all the secretariats; the commission of all the work that can be done by presbyteries to the presbyteries; and the appointment of a single central treasurer, who should be a deacon and not a minister, to receive and disburse all the funds for causes which can not be managed by the presbyteries in their individual capacity. The consideration of the nature of the office of deacon was connected with this subject, and was discussed in an elaborate paper by the Rev. Dr. J. L. Girardeau, which attracted much attention. The minority report was rejected, and no definite conclusion was reached. An appeal was made to the Assembly against the action of the Synod of Georgia in a case of discipline. The appellant had been tried for moral delinquency; the jury had given a verdict that the charges were not proven; and he was admonished. He afterward asked for a letter of dismissal, and it was refused, for the reason, as assigned, that he was under judicial censure. He appealed, on the ground that he had been condemned without being given a hearing in his own defense, to the presbytery, and then to the Synod, both of which bodies refused him a hearing. His appeal was sustained by the Assembly, whose decision was given in his favor by a large majority. The Committee of Foreign Missions was authorized to establish a mission in Africa whenever that can be done without conflict with the interests of the other missions, and to conduct correspondence with reference to carrying out the scheme of co-operation between the missionaries of the "Reformed Churches" in foreign

fields, which was suggested by the General Presbyterian Council. The Assembly decided that the stated, or temporary, supply is not an officer recognized in the law of the Church; and that when any one is serving in that capacity, he has all the rights of a minister, and may not be a member of the session, though he may be its Moderator. An overture was sent down to the presbyteries asking them to vote whether a provision for the demission of the Eldership shall be incorporated in the "Book of Discipline."

III. UNITED PRESBYTERIAN CHURCH OF NORTH AMERICA.—The statistical summaries presented to the General Assembly, in May, gave the following items respecting the condition of this Church for the year: Number of synods, 9; of presbyteries, 61; total number of ministers, 704; number of licentiates, 47; of students of theology, 65; of congregations, 814; of members, 82,937; of Sunday-schools, 768, with 8,377 officers and teachers, and 72,020 scholars. *Amount of contributions*: For salaries of ministers, \$444,915; for congregational expenses, \$230,706; to the boards, \$137,144; general contributions, \$40,775; making a total of contributions of \$853,541, and an average per member of \$10.74. The average salary of the pastors was \$910.

The general condition of the boards and benevolent enterprises was represented in their reports as follows:

Board of Church Extension: Receipts, exclusive of a balance from the previous year, \$19,781; appropriations had been made to the amount of \$22,112.

Ministerial Relief: The board had received \$4,914, had paid \$2,785 to beneficiaries, had invested \$2,265 permanently, and had cared for nineteen cases of disabled ministers, and widows and orphans of deceased ministers.

The *Board of Publication* returned a surplus of assets over liabilities of \$72,036, and reported that its receipts for the year had been \$60,723.

The *Board of Education* had \$13,040 invested as a permanent fund, and had given aid during the year to nineteen students of theology.

The *Board of Freedmen's Missions* had received \$13,129, held property valued at \$35,900, and had a church, a theological class of 30 members, and a college with an enrollment of 185 students at Knoxville, Tennessee, and a mission and a school of 210 pupils at Chase City, Virginia.

The *Board of Home Missions* had granted \$46,548 in aid of 208 stations. The reports, so far as received, gave the number of members in these stations as 11,116, the average attendance on worship as 18,428, and the average attendance on the Sunday-schools as 12,016 pupils.

The receipts of the *Board of Foreign Missions* had been \$65,032, and its expenditures \$65,295. The mission in India returned 14,

foreign missionaries, 54 teachers and helpers, 6 churches, with 337 communicant members and an average of 957 attendants, 1,903 scholars, and 13 theological students. The mission in Egypt returned 21 foreign missionaries, 149 native agents, 12 churches, with 1,036 members and an average attendance of 1,837, 49 schools, with an average monthly attendance of 2,219 pupils, and 42 Sunday-schools, with an average attendance of 1,491. The native Christians had contributed, in India, \$259, and in Egypt, \$4,747, besides paying considerable sums in tuition fees in both countries. A mission among the Chinese at Los Angeles, California, hitherto under the charge of the presbytery, was taken under the care of the General Assembly.

The *General Assembly* of the United Presbyterian Church of North America met at Allegheny City, Pennsylvania, May 25th. The Rev. D. W. Carson, D. D., of Burgettstown, Pennsylvania, was chosen Moderator. The most important questions considered were those relating to psalmody and the use of instrumental music in worship. A memorial was presented calling the attention of the Assembly to the fact that congregations in at least seven presbyteries had, in contravention of the provisions of the "Directory of Worship," introduced instrumental music into their public worship or into the worship of the Sabbath-school, and asking it to direct the presbyteries within whose bounds the law is thus disregarded "to take steps promptly to have the disorder corrected in the congregations under their care respectively." The majority of the committee to whom this memorial was referred presented a report in favor of taking the action requested. The report of the minority maintained that the Assembly could acquire jurisdiction over the subject only upon appeal in a case directly brought before it from the lower courts. The Assembly accepted this view, and adopted a resolution declaring that "in the case in question the presbyteries and synods are competent, and are expected by the Assembly to apply the law." A memorial was also presented asking that an overtone respecting the repeal of the law prohibiting the use of instrumental music in worship be submitted to the presbyteries. The report of the committee on this subject recognized that a deep and widespread dissatisfaction with this law existed, and that it was proper to take the opinion of the Church upon it. The resolution submitting the question of repeal to vote was passed by a vote of 131 to 22. The committee which had been appointed to confer with a committee of the Associate Reformed Synod of the South with reference to union reported proposing a plan for union without formal basis, but by agreement under which each church should accept the other's standards, with the reservation of the privilege of quiet dissent as to particular articles, and of the power to revise the standards in the future. The committee was

continued with full power to represent that assembly as a commission in submitting the propositions for union, in the acceptance of such action as might be taken by the Associate Reformed Synod of the South, and in the adoption of such other arrangements as might be deemed necessary for the consummation of the proposed measure, subject to the ratification of the next General Assembly.

IV. ASSOCIATE REFORMED PRESBYTERIAN CHURCH.—The *Associate Reformed Synod of the South* met at Ebenezer, Georgia, in August. The Rev. Dr. Phillips was chosen Moderator. A basis of union with the United Presbyterian Church of North America (see the section of this article on that Church) was submitted by the committee having the subject in charge, with a recommendation that it be adopted. The Synod ordered it referred to the presbyteries, whose votes upon it should be reported to the Synod at its next meeting to guide its final action.

V. REFORMED PRESBYTERIAN CHURCH (SYNOD).—The *Synod* of the Reformed Presbyterian Church met at Pittsburgh, Pennsylvania, May 24th. The Rev. T. P. Stevenson was chosen Moderator. The Committee on *Sabbath-schools* reported the number of schools as 101, with 1,087 teachers and 10,097 scholars. The receipts and expenditures of the *Board of Foreign Missions* had been each \$11,158. The mission in Syria returned 104 members of the Church, 316 children in Sunday-schools, and 424 pupils in fourteen day-schools. Industrial departments had been established in connection with the boarding-school at Luadea.

VI. REFORMED PRESBYTERIAN CHURCH (GENERAL SYNOD).—The *General Synod* of the Reformed Presbyterian Church met at Cedarville, Ohio, in May. The Rev. James G. Boice, of Philadelphia, Pennsylvania, was chosen Moderator. The Synod resolved to discard the term "New School Covenanters," as a term of discrimination between this denomination and the other one of the same name. The Treasurer of the Board of Foreign Missions reported that he had \$1,900 in his hands. The Synod resolved to re-establish its mission in Northern India which had been suspended since 1868, since which time the Synod had co-operated with the Northern Presbyterian Church in sustaining missions in that region. The establishment of an academy for the education of youth was determined upon. The Synod was informed that a bequest had been made to it by Mr. Francis Lamb, conditioned upon the continued existence of the Reformed Presbyterian Church, sufficient to equip and endow a theological seminary in Philadelphia, Pennsylvania.

VII. CUMBERLAND PRESBYTERIAN CHURCH.—The statistical reports of this Church which were presented to the General Assembly in May show that it includes 116 presbyteries, 1,386 ministers, with 276 licentiates and 154 candidates, 2,570 congregations, and 113,933

communicants. The increase in the number of communicants from the previous year was 2,070.

The *Board of Missions* reported that it had received \$21,133, and had disbursed \$11,233. The Woman's Board of Foreign Missions had received \$1,903. The former board sustained domestic missions at several points within the United States; an Indian mission (Bethel Presbytery), with which were connected 13 ordained and licensed preachers, 24 organized congregations, and 527 communicants; and a mission at Osaka, Japan, where three persons had been baptized during the year. The board was advised by the General Assembly to endeavor to send missionaries into Mexico.

The fifty-first *General Assembly* of the Cumberland Presbyterian Church met at Austin, Texas, May 19th. The Rev. W. J. Darby, of Evansville, Indiana, was chosen Moderator. Adverse action was taken on propositions to change the name of the Church, the assembly ordering the whole subject "dropped without any further discussion." A committee was appointed to revise the "Confession of Faith" and "Form of Government of the Church." On the subject of the Presbyterian General Alliance, which had declined to admit the delegates of this Church to the meeting of its Council in 1880, on the ground that they had not submitted official evidence of the adherence of Cumberland Presbyterians to the Reformed confession, the Assembly expressed its adherence to that confession and its desire to connect itself with the Councils of the Alliance and maintain the Presbyterian system. It approved the constitution of the Alliance, ordered its "Confession of Faith" to be submitted to that body, and appointed a committee to take charge of the subject in the future. The question of the competency of elders to sit as moderators of the courts of the Church was considered in reports of committees and the debates of the Assembly, with expressions of widely different opinions.

VIII. PRESBYTERIAN CHURCH IN CANADA.—The statistical returns presented to the General Assembly in June represented the whole number of congregations or stations constituting pastoral charges connected with this Church as 1,506, and the whole number of members as 112,970. The aggregate number of persons connected with the congregations was 337,000, and the whole number connected with Sunday-schools and Bible-classes was 85,856. The total amount of contributions was \$1,245,495, of which \$52,355 were for college funds, general and special, \$16,848 for French evangelization, and \$32,732 for foreign missions.

The *French Evangelization Committee* had sustained 12 schools, with which were connected 18 teachers and 475 pupils. In all, more than two thousand French Canadians had been educated in its schools.

The *Foreign Mission Committee* sustained through its eastern section, which is supported

by the churches in the Maritime Provinces, missions in the New Hebrides and Trinidad (where four missionaries were employed), which were represented to be in a prosperous condition. Through its western section, supported in Ontario and Quebec, the committee sustained missions in the Northwest Territory (four missionaries); China (the Island of Formosa, two missionaries); and at Indore in India (four missionaries). Many patients had been treated at the Mackay Hospital in Tamsui, Formosa; and a considerable number of publications had been issued in connection with the mission in India. The Holkar at Indore had ordered the mission school at that place to be closed unless the missionaries should give a written pledge that Christianity should not be taught, which they could not do.

The *General Assembly* of the Presbyterian Church of Canada met in Kingston in June. The Rev. Dr. McVicar was chosen Moderator. The discussion of the question of the recognition of the Roman Catholic ordination of converted priests, who might apply for admission to the ministry of the Church, which had engaged the attention of the last General Assembly, was continued. The Assembly declined to come to a decision on the general question, but expressed its readiness at all times to give directions to presbyteries in cases of practical difficulty in which the question might be involved, reserving to itself the right to deal with each case upon its merits. An overture in favor of the obligatory introduction of instruction in the Bible into all the schools of the Dominion was, after discussion, laid on the table. A question in reference to the support of the colleges, which had caused some irritation, was settled by the constitution of a common fund from which each of these institutions can draw a fixed amount.

IX. PRESBYTERIAN CHURCH IN ENGLAND.—The statistical reports of this Church for 1881 show that it is composed of ten presbyteries, comprising 273 congregations, with 55,201 communicants, 165,000 adherents, and 61,962 Sunday-school scholars.

The entire income of the Church for the year was £205,486. The whole amount paid for stipends was £83,151. The income of the *Sustentation Fund* had been £37,426, and the average stipend was £309. The *Union Thanksgiving Fund* had reached the amount of £148,325. The *Widows' and Orphans' Fund* returned an income of £3,003, and the *Aged Ministers' Fund* of £384.

The income of the *Foreign Mission Fund* for the year had been £12,176. The missions in Amoy, Swatow, and Formosa, China, returned 23 organized churches and 49 stations, with 2,342 communicants and 11 students, and were managed by a staff of 18 missionaries, 3 women missionaries, and 65 native evangelists. The Women's Missionary Association had raised during the year £1,500 for work among the women of China.

The Jewish mission maintained two agents among the Jews in the east of London.

The *Synod* of the Presbyterian Church in England met at Newcastle-upon-Tyne April 25th. The Rev. Dr. Callingwood Bruce was chosen Moderator. Resolutions opposing the connection of church and state, and favoring disestablishment, were introduced, and gave rise to a vigorous debate, but the Synod declared it inexpedient to make a definite recommendation on the subject. A committee was appointed to consider the subject of psalmody in the Church, and report to the next meeting of the Synod. The establishment of a loan fund for the extinction of debts on church property, and of a fund for the insurance of denominational property, were recommended.

X. ESTABLISHED CHURCH OF SCOTLAND.—The total amount of contributions (exclusive of seat-rents) to the funds and schemes of this Church for 1880 was £319,829.

The *Colonial Committee* reported that its receipts for 1880 had been £3,880, against £3,384 received in 1879, and its expenditures £5,900, against £7,347 in 1879. It had further received a legacy just at the close of the year of £7,142, by means of which it had freed itself from debt, and had come into the enjoyment of a surplus of £1,500. The report reviewed the operations of the committee in supporting chaplains at various points in India, Ceylon, Cyprus, South Africa, British Columbia, the West Indies, British Guiana, Australia, New Zealand, the European Continent, and the military and naval stations. It was gradually closing up its work in Canada, in accordance with the terms of the Union of the Presbyterian Churches of the Dominion. The report of the Committee on Correspondence with Foreign Churches touched upon the condition of the Reformed Churches in France, Italy (Waldensians), Holland, Moravia, and Bohemia.

The *Jewish Committee* reported that its income had been £5,024, and its expenditures £5,354, both showing a considerable falling off from the two previous years. It had had 2,109 pupils during the year at its nine schools in Egypt, Asiatic and European Turkey, 1,038 of whom were Jews. These numbers were larger than had been returned in any previous year. The number of baptisms, 10, was likewise larger than in any year before.

The *Committee on Education* reported that the whole Training College system, involving an outlay of nearly £24,000 a year, had been maintained without making any appeal to the Church for aid.

The *Committee on Sunday-schools* presented reports of 1,952 schools, with 17,436 teachers, 187,418 children, and 44,885 persons in adult classes.

The *Committee on Patronage Compensation* had received £1,381, or only enough to pay to the presentees one half the sums deducted by patrons, besides leaving untouched the arrears of previous years. The committee called special

attention to the systematic disregard shown by many ministers to the injunctions of the Assembly. Collections had been made for its scheme, as ordered by the Assembly, in only 562 out of 1,263 parishes where they might have been made.

The *Home Mission Committee* had received £15,983, a larger revenue than it had ever enjoyed in any year except 1878. Nearly half of this amount, £7,142, had come in the form of a legacy from the late James Buist, and £7,000 of it would be erected into the "Buist Fund."

The *Foreign Mission Committee* reported that its receipts had been £7,697 in collections, and £8,551 in legacies, and that its expenditures had amounted to £18,350. It regarded the state of the funds as of "the gravest importance." The additions to the mission churches had been "numerous and encouraging."

The *General Assembly* of the Church of Scotland met at Edinburgh May 19th. The Rev. Dr. Smith, of Cathcart, was chosen Moderator. Two important subjects were considered. One related to the conduct of the missionaries of the mission at Blantyre, on the Shire River, Central Africa, who had been charged with assuming the exercise of a civil jurisdiction to which they were not entitled, and with committing, under color of it, cruelties upon natives. A committee sent out to investigate the case had found that the charges were substantially true, and the missions had thereupon been suspended and recalled. The report of the committee on the subject covered the question of the proper civil and commercial relations to be maintained between missionaries and the people among whom they are settled, and included the results of inquiries made among other societies on the subject. No other society except that of the Free Church at Livingstonia seemed ever to have had any settlement similar to that at Blantyre; but all their missions were in countries where a paramount power existed. The missionaries were instructed to conform as far as might be to local laws, and were forbidden to exercise jurisdiction. In the case of slavery, while they were to give every assistance, and afford every mitigation in their power to the enslaved, they were not to set themselves up against the laws of the country. The use of fire-arms, except for shooting game, was discouraged. Cases of robbery should be left to be dealt with by the proper authority, or, if its mode of punishment was repugnant to Christian feeling, should rather be endured. The societies seemed quite aware that, in order to carry out their policy of non-interference, they should have no industrial settlement, and, accordingly, confined themselves to raising what was necessary for their own support. In accordance with these principles, the committee recommended that, while the mission be continued, the industrial department, and all attempt to raise produce for barter or sale, be abandoned, and civil and criminal jurisdiction

be left exclusively to the native chiefs. These recommendations were adopted.

Another subject which engaged attention prominently involved the question of the admissibility of certain views expressed in a volume called "Scotch Sermons," which was published in 1880. The volume included twenty-three sermons by thirteen authors, in which religious questions were considered from the liberal and worldly scientific, as distinguished from the strict theological point of view. In one of these discourses the Rev. W. L. MacFarlane, of Lenzie, assuming to point out in what sense the Scriptures are authoritative, had expounded the views of those who hold that the Bible is not true because it is authoritative, but is authoritative because and in so far as it is true. In another discourse, the same author, considering what are the essentials of Christianity, the truths which can not be shaken, expounded, as between the blind adherents of traditional dogmas and the thoroughgoing opponents of Christianity, the views of those who welcome the criticisms of theological dogmas by scientific men as "instrumentalities, somewhat rough in their operation, by which the religion of Christ is being purified from the corruptions which have attached themselves to it." The Presbytery of Glasgow, to which Mr. MacFarlane was attached, had referred the case of the sermons to a committee; the Synod, on appeal, had sustained its action, and the case was now brought up on appeal from the Synod. The case appeared to the Assembly to leave it open to doubt whether Mr. MacFarlane had intended to express the views objected to as his own, or only representatively as those of a party whose attitude he was defining, without committing himself to it. The Assembly decided to recall the finding of the presbytery; pronounced the sermons defective in statement and blameworthy; warned the ministers not to be chargeable with such teaching; and required Mr. MacFarlane to answer whether he disclaimed the identification of his own views with the doctrines objected to, whether he regretted that his sermon had given occasion for doubts as to the soundness of his teaching, and whether he would endeavor to avoid giving occasion for offense in the future. Mr. MacFarlane gave a satisfactory answer to the questions, was admonished by the Moderator, and the case was declared ended.

XI. FREE CHURCH OF SCOTLAND.—The *Finance Committee* of the General Assembly reported that the total receipts of this Church for the year ending March 31, 1881, had been £590,333.

The entire income of the *Education Committee* was £1,355, and fell considerably short of the requirements of the scheme.

The increase of the *Widows' and Orphans' Fund* was £98,190. It had received legacies amounting to £2,455. The whole amount of accumulated funds was £265,711.

The *Sustentation Fund Committee* had re-

ceived £171,976, and had £149,597 available for equal dividend. Of 1,097 ministers, 899 were on the platform of the equal dividend, of whom 796 were drawing the full year's dividend.

The *Committee for the Highlands and Islands* had received £8,879, and had had a year of successful work.

The *Home Mission and Church Extension Committee* reported a deficiency for the year of £1,631. It had 32 church-extension stations and charges, 6 territorial missions, 25 charges, and 80 congregational missions.

The sum of £98,200 had been subscribed toward the *Church Extension Building Fund* of £100,000, which the General Assembly had undertaken to raise, and £48,249 had been paid in to it.

The receipts for the various *Foreign and Colonial Missions* for the year had been:

For missions to the heathen and Mohammedans....	£56,015
For missions to the Jews.....	10,014
For continental missions.....	4,124
For colonial missions.....	4,189
Total.....	£74,342

This showed an increase of nearly £5,000 in the year.

The missions are in India, South and Central Africa, the New Hebrides Islands, and (medical) Syria, and employed 36 ordained European and 11 ordained native missionaries, with assistant missionaries, teachers, evangelists, catechists, etc., swelling the whole number of Christian agents to 488. They embraced 25 principal and 104 branch stations, with 3,600 communicants in 35 congregations, and 13,138 students and scholars in 6 colleges and 191 schools, of whom 416 were university undergraduates; 425 adults and 262 children had been baptized or admitted on profession during the year. The native contributions and fees in support of the works of the missions had been £9,097.

The *General Assembly* of the Free Church of Scotland met at Edinburgh May 19th. The Rev. Dr. William Laughton was chosen Moderator. The new moderator, as if anticipating that the chief business of the Assembly would be the consideration of the case of Professor Robertson Smith, referred, in his opening address, to the impatience exhibited of confessional restraints; and said that while the confession was by some unduly exalted, as though it were on a level with the Bible, there was a limit, on the other hand, and it would not do to yield to the skeptical spirit and tendencies of the age. There must be no compromise on the supernatural revelation of the Divine Word and on those principles of revelation clearly and unequivocally asserted by the "Confession of Faith." A case came up involving a decision of the Presbytery of Dundee, prohibiting the use of a harmonium in a church at Broughton Ferry. The Synod, to which the case was appealed, had, without hearing the presbytery,

found its action incompetent, on technical grounds, and had remitted the matter back to the presbytery, whereupon the case was brought before the Assembly. The Assembly approved the action of the presbytery adverse to the instrument, and ordered it to be carried out. With regard to disestablishment, the Assembly adhered to its resolutions of the previous year, declaring that the time had come for advocating such a measure, and, referring to the teind (tithe) bill before Parliament, resolved "that the teinds do not of right belong to the existing establishment; that they ought to be administered and applied with a view to the good of the community; and that, until this question is raised, and while things continue to be on their present basis, no legislation recognizing that basis, and proceeding on it, ought to take place," and directed a petition to be prepared in accordance with these views, to be presented to the House of Commons. With regard to the Society for Promoting Christian Knowledge, an institution which, endowed before the disruption had come, in consequence of that event was wholly under the management of the Established Church, while the members of the Free Church believed that they should equitably be entitled to a share in its administration, the Assembly resolved, in view of several propositions relative to its management: That the Church could "not be satisfied with anything short of the opening up of the management of the society, and the removal of the restrictions by which the directors have been prevented, since 1846, from appointing any persons as missionaries, catechists, or teachers in the highlands and islands except members of the Established Church," and instructed its committee to take such steps as it might deem expedient for the attainment of the ends desired. The application of the principle of "local option" to the restriction of the sale of intoxicating liquors was approved, and its extension to Scotland was called for.

XII. UNITED PRESBYTERIAN CHURCH OF SCOTLAND.—The statistical reports of this Church, as presented to the Synod in May, showed the number of members to be 173,982, or 152 less than the number reported in 1879. The total income of the Church for the year was £383,004, showing a considerable increase. The total amount raised for congregational purposes was £244,747, and the sum raised for missionary and benevolent purposes was £81,799. The decrease in the number of members, which appears to be becoming quite marked, has been the subject of considerable discussion and correspondence in the Scottish press.

The Synod of the United Presbyterian Church met at Edinburgh May 2d. The Rev. Dr. Scott, the Home Mission Secretary, was chosen Moderator. The most important subject considered was that of the use of instrumental music in the churches. Majority and minority reports of committee were presented upon it. The majority report recommended that the churches

be reminded that it is in violation of the law of the Church to introduce musical instruments in worship, and that the sessions of churches in which instruments have been introduced be directed to remove them. The minority report suggested that, if those who sent up memorials on the subject desired to institute processes against violators of the law, they do so in the session instead of in the Assembly. The minority report was adopted, by a vote of 107 to 53. An overture was adopted, to be sent down to the presbyteries, to secure from them declarations as to whether the present law should be continued or discontinued.

XIII. WELSH CALVINISTIC METHODIST CHURCH.—The statistical reports of this Church for 1881 showed that the number of members was 118,251, with 957 ministers, ordained and unordained, and 1,334 chapels and preaching places. The income of the Church for the past year had been \$786,750.

XIV. PRESBYTERIAN CHURCH IN IRELAND.—The General Assembly of the Presbyterian Church in Ireland met in Dublin in June. The Rev. Dr. Smyth was chosen Moderator. The statistical reports showed that a decrease of 1,221 had taken place in the number of communicants, and of 416 in the number of stipend-payers, while the total amount of contributions, £140,749, was higher than it had been in 1880, but about £14,000 behind the receipts of 1878 and of 1879. Of this amount £44,948 had been raised for ministers' stipends, £22,266 for sustentation. The debt of the Church was £77,682, or £1,608 more than in any former year. The reports of the colonial and continental missions referred to successful and promising work that had been done, but which could not be followed up for want of means. The Sunday-School Society reported 1,030 Sunday-schools, with 8,997 teachers and an average attendance of 73,144 children. The report on Irish missions showed that mission work had been carried on in the south and west with considerable success. A fund for aged ministers was instituted by the present Assembly. The question whether toleration should be given to the use of instrumental music in the worship of the churches, had been a subject of discussion in the general assemblies for several years without a final decision having been reached upon it; and several churches had availed themselves of the sufferance which was accorded them from one assembly to another to introduce and use organs. The Assembly now resolved, by a vote of 206 to 185, to prohibit entirely the use of instruments in the service of worship, and to command the congregations which had introduced them, under pain of discipline, to remove them immediately. Several protests were filed against this action, and a new overture on the subject was presented, to be considered by the next General Assembly. A communication was read from the Government announcing its intention to grant a charter to Belfast and Derry Col-

leges, empowering them to confer degrees in theology.

The Committee of Arrangements for the Third General Council of the *Alliance of the Reformed Churches holding the Presbyterian System* met at Belfast, Ireland, August 16th, and appointed Tuesday, June 26, 1884, as the time for the meeting of the Council, the sessions to continue till July 4th.

XV. WALDENSIAN CHURCH.—The Waldensian Church of Italy included, according to the reports made to the Synod of 1881, 41 settled congregations, 34 stations, 150 places visited by evangelists, 46 teachers, 7 colporteurs, 3,225 communicants, and 437 catechumens. The receipts of the year for schools and missions had been \$10,500, and \$18,000 had been raised in the Church for the augmentation of the stipends of ministers.

The Annual Synod of the Waldensian Church was held at Florence in September. The Rev. Professor Geymonat, of the Waldensian College at Florence, presided. The most important discussion was upon a report of a commission which had been intrusted with the revision of the Liturgy. The revision was opposed by a number of members, who favored the retention of the old Liturgy; but the Commission of Revision was reappointed, and authorized to continue its work for another year. A delegate, representing the Presbyterian churches of Scotland, announced that a gift of £12,000, which had been promised by the members of those churches as an endowment for increasing the stipends of the pastors, had been completed. A similar endowment, in the promotion of which the Archbishop of Canterbury has interested himself, is to be provided by the friends of this Church in England.

XVI. PRESBYTERIAN ALLIANCE OF INDIA.—The Presbyterian Alliance of India, formed of the various Presbyterian churches represented in India, held its second session in June, in Allahabad. Nearly all of the twelve churches, except the most distant ones, were represented. Dr. Morrison, of the United States, was chosen Moderator. The chief subjects discussed concerned the union of the native communities of the various Presbyterian churches in India into one organization. A scheme for the establishment of a college at Allahabad was also considered.

PRESTON, JOHN S., born at Abingdon, Virginia, April 13, 1809; died in Columbia, South Carolina, in 1881. When very young he entered the University of Virginia, and soon attracted the attention of the professors by his ripe scholarship. He pursued with great industry a full course of studies, and graduated with distinction, bearing off the highest honors of his class. After finishing his university course, he made an extended tour through Europe, spending several years in Paris and Rome. In 1840 he located in Columbia, South Carolina, having, a short time before, married a daughter of Wade Hampton, of Revolutionary fame.

Upon the return of the Palmetto Regiment from Mexico, in 1848, General Preston was selected to deliver an address of welcome. His oration on this occasion was so finished and eloquent that it stamped him as the foremost orator of the South. At this time he eschewed politics, although persistently urged by his friends to accept public position. A few years later, however, he overcame his scruples, and became a candidate for State Senator against the celebrated James W. Adams. The canvass was one of the most stubborn and acrimonious known in the State. Preston was elected by a small majority. He served for several terms with marked ability. A series of able literary papers, contributed by him to periodicals of the day, incontinently marked him as possibly the first *littérateur* in the South. General Preston's æsthetic tastes, so highly cultivated, rendered him a connoisseur of the fine arts, of which he was a liberal patron. He it was who first perceived in Hiram Powers that genius which, through his munificent interposition, developed into the master sculptor. Through gratitude, Powers made General Preston the recipient of the first replica of his famous "Greek Slave." General Preston was an ardent secessionist. He went to Richmond to advocate disunion and war. When hostilities began, he assumed command of a regiment in Virginia, and was in the first battle of Manassas. He was subsequently made general. After the war he went immediately to England, where he remained for some time. A few years ago he delivered an oration before the Virginia University, in which he opposed reconciliation. This drew upon him the vehement condemnation of the Northern and Southern press. To the day of his death he entertained the most radical views concerning the wrongs of the South, and her right to secede from the Union. He had been an honest and consistent but bitter adversary of fraternal reconciliation between the North and South. His last public effort was his address delivered at the unveiling of the Confederate monument in Columbia two years ago. General Preston was a remarkable specimen of physical manhood, over six feet tall, possessing a powerful and symmetrical frame, his head large and well shaped and his forehead massive.

PROTESTANT EPISCOPAL CHURCH.

The following is a summary of the statistics of the Protestant Episcopal Church in the United States as they are given in "The Church Almanac" for 1882: Number of dioceses, 48, with 15 missionary districts (including Africa, China, and Japan) additional; whole number of clergy, 3,496; number of communicants, 342,500; number of Sunday-school teachers so far as reported, 29,568; number of Sunday-school scholars, 283,536. Amount of contributions, \$6,749,043. Number of baptisms, 42,519; number of confirmations, 23,967. Whittaker's "Protestant Episcopal Almanac and Church List" gives the following statistics by dioceses:

DIOCESES AND MISSIONS.	Clergy.	Parishes.	Communi- cants.
Alabama.....	27	45	3,615
Albany.....	113	93	12,766
Arkansas.....	16	17	1,080
California.....	54	29	3,602
Central New York.....	95	106	12,573
Central Pennsylvania.....	96	89	7,064
Connecticut.....	132	143	20,696
Delaware.....	27	31	1,930
Easton.....	36	37	2,545
Florida.....	20	17	1,651
Fond du Lac.....	27	30	2,352
Georgia.....	36	34	4,523
Illinois.....	57	47	6,475
Indiana.....	33	39	3,777
Iowa.....	50	55	4,017
Kansas.....	32	27	2,007
Kentucky.....	36	35	4,150
Long Island.....	97	65	19,950
Louisiana.....	34	43	3,556
Maine.....	27	22	2,141
Maryland.....	166	134	20,353
Massachusetts.....	150	117	17,981
Michigan.....	67	62	7,952
Minnesota.....	32	62	5,064
Mississippi.....	23	34	1,909
Missouri *.....	55	46	5,335
Nebraska.....	32	29	1,702
New Hampshire *.....	31	27	2,065
New Jersey.....	90	72	7,774
New York †.....	307	203	35,303
North Carolina.....	66	83	5,796
Northern New Jersey.....	74	65	8,108
Ohio.....	71	71	6,652
Pennsylvania.....	201	122	25,271
Pittsburgh.....	43	53	5,333
Quincy.....	22	30	1,470
Rhode Island.....	44	44	6,629
South Carolina.....	46	54	4,613
Southern Ohio.....	54	43	5,051
Springfield.....	36	21	1,897
Tennessee.....	35	32	2,733
Texas.....	22	35	1,870
Vermont.....	34	39	3,367
Virginia.....	145	160	12,773
Western Michigan.....	29	27	2,970
Western New York *.....	93	97	12,000
West Virginia.....	19	26	1,963
Wisconsin.....	69	41	4,327
MISSIONS.			
Oregon.....	16	26	735
Dakota.....	12	13	625
Colorado and Wyoming.....	30	34	1,816
Utah and Idaho.....	9	11	547
Nevada.....	7	7	377
Niobrara.....	12	25	647
Northern Texas.....	11	8	1,033
Western Texas.....	12	12	853
Northern California.....	12	13	530
New Mexico and Arizona.....	4	..	162
Montana †.....	8	11	321
Washington.....	9	6	306
African Missions.....	14	3	447
China Missions.....	10	7	408
Japan Missions.....	7	5	77
Europe and China †.....	7	6	500‡
Total.....	3,401	3,035	344,530

The clergy are composed of 64 bishops, one bishop-elect, and 3,401 priests and deacons. Whole number of missions under the care of the Church (from incomplete reports), 1,221; number of candidates for orders, 391; number of baptisms, so far as reported, 44,963; of confirmations, 25,401; number of Sunday-school teachers, 34,363; of Sunday-school scholars, 304,952; total amount of the contributions of the Church, \$7,311,785. The column of "communicants" shows an increase of 3,739 over the previous year. The contribu-

tions were larger than in 1880 by \$298,022. The educational institutions under the direction of the Church include 11 colleges and 13 theological seminaries. The "foreign churches" organized and forming part of the Protestant Episcopal Church in the United States under the canon include one church at Nice and two at Paris, France; one church in Dresden, Germany; one in Rome and one in Florence, Italy; one in Geneva, Switzerland; one in Athens, Greece; and a mission in Havana, Cuba. The churches at Florence and Athens are vacant.

The Rev. J. H. Hopkins, of Williamsport, Pennsylvania, has published the following table, showing the ratio of communicants in this Church to the population in the several States, as shown by a comparison of the reports of the census and of the statistics of the Church for 1880:

	1 to		1 to
Connecticut.....	30	North Carolina.....	246
Rhode Island.....	43	Dakota.....	275·6
Maryland.....	49	Ohio.....	275·7
New York.....	57	Nebraska.....	296
Delaware.....	73	Maine.....	318
New Jersey.....	76	Louisiana.....	317
Vermont.....	100	West Virginia.....	323
Massachusetts.....	103	Illinois.....	331
Pennsylvania.....	112	Georgia.....	347
Virginia.....	117	Alabama.....	365
Colorado and Wyoming.....	139	Texas.....	392
Both Virginias united.....	143	Missouri.....	406
Michigan.....	160	Iowa.....	409
Minnesota.....	161	Kentucky.....	416
New Hampshire.....	167	Tennessee.....	493
Florida.....	172	Kansas.....	535·1
Nevada.....	183	Indiana.....	535·8
Wisconsin.....	189	Mississippi.....	663
California.....	209	Arkansas.....	554
South Carolina.....	218	New Mexico and Ari- zona.....	1,250
Oregon and Washington.....	234		
Montana, Utah, & Idaho.....	245		

In 1870 the Church returned one communicant to every 175 persons of the total population of the country, including Chinese and non-tribal Indians. In 1880 it had one communicant to every 148 of the whole population.

Bishop Thomas Atkinson, of North Carolina, died on the 4th of June, and his place was taken by the Rev. Theodore Benedict Lyman, D. D., who had been chosen Assistant-Bishop of the Diocese in 1873.

Bishop John Barrett Kerfoot, of Pittsburgh, died on the 18th of July. The Rev. Cortlandt Whitehead, D. D., was chosen to succeed him.

The committee appointed by the General Convention of 1880 to consider the feasibility of securing for the "Book of Common Prayer" liturgical enrichment and increased flexibility in use, held its first meeting in the city of New York, January 18th. The work of review was distributed among three sub-committees, and resolutions were adopted declaring, 1st, that the committee "asserts at the outset its conviction that no alteration should be made touching either statements or standards of doctrine in the 'Book of Common Prayer'; and, 2d, that in all its suggestions and acts it shall be guided by those principles of liturgical construction and ritual use which have guided the compilation and amendments of the 'Book of

* Statistics of 1880. † Incomplete. ‡ Estimated.

Common Prayer,' and have made it what it is."

The three dioceses within the State of Illinois took steps to organize themselves into a *Province* during 1880 and prior to the meeting of the General Convention in that year; and, as required by the canon, they submitted to the General Convention for its approval a draft of the organization and of the powers which they proposed it should exercise. The organization and its constitution were approved by both houses of the General Convention, except a provision relative to the establishment of an appellate court, to which the House of Bishops made objections. The first meeting of the Provincial Synod for business was held at Springfield, Illinois, January 26th, when the three bishops and five clergymen and five laymen, as delegates from each of the dioceses, were present. The Bishop of Quincy presided. The Synod engaged actively in the discussion of the question of organizing an appellate court, notwithstanding the objections of the House of Bishops to that measure. It was maintained that while the House of Bishops had declined to approve giving the power to form a court, and the House of Delegates had, after long resistance, acquiesced in its action for the sake of saving the rest of the measure, the latter house had defined that its acquiescence was based on the express ground that since the proposed court was to be "first instituted by the several dioceses, under the permission already granted by Article 6 of the Constitution," this power did not need the approval of the General Convention. The record of the action of the two houses of the General Convention in 1871 was read, showing that both houses had then, in the clearest manner, recognized the precise diocesan right which it was now proposed to exercise, and it was held that the action of both houses in 1871 could not be repealed by a want of consent on the part of one house in 1880. A preamble, citing the precise language of the action of the General Convention in 1871, was added to the resolution it was proposed to adopt, and the measure, asserting the right to act in the establishment of the court, and embodying the draft of a canon for its organization, was passed. The canon has, in order to be of force, to receive first the approval of each of the three diocesan conventions represented in the provincial organization. This is the first real step that has been taken toward the organization of a Court of Appeals in this Church. The bishops were requested to confer and report to the next meeting of the Synod concerning the practicability of establishing any educational or charitable institutions to be under the care of the province.

A *Church Temperance Society* has been organized and placed under the *ex officio* presidency of the presiding bishop. Its objects are declared in its constitution to be—1, the promotion of temperance; 2, the removal of

the causes which lead to intemperance; 3, the reformation of the intemperate. Its constitution declares that "recognizing temperance as the law of the Gospel, and total abstinence as a rule of expediency in certain cases, and fully and freely according to every man the right to decide in the exercise of his Christian liberty whether or not he will adopt such a rule, this society lays down as the basis on which it rests and from which its work shall be conducted a union and co-operation on equal terms for the promotion of temperance between those who use moderately and those who entirely abstain from intoxicating drinks as beverages." Among the means relied upon by the society for the promotion of its object, besides religious influence and subordination to it, are—1, systematic teaching on the physical, social, and moral evils of intemperance, by means of sermons, lectures, and the press; 2, the formation of diocesan and parochial societies on the general plan of the general society, and in affiliation with it; 3, counter-attractions, including the promotion of coffee-houses, workingmen's benefit societies and associations, reading-rooms, with social gathering for amusement as well as for instruction; 4, total abstinence from all intoxicating beverages, to be urged on the intemperate and those under special peril, and to be recommended to the temperate under certain circumstances, and especially to the young, as a safeguard against temptation.

The seventh *Church Congress* was held in Providence, Rhode Island, October 25th, 26th, and 27th. The bishop of the diocese presided, and opened the Congress with an inaugural address. The proceedings of the sessions consisted of discussions, previously arranged for, as follows: "Civil Service Reform"—papers by the Hon. Charles Gibbons, Joseph Packard, Jr., of Baltimore, Maryland, and Seth Low, Esq., of Brooklyn, New York; "Methods of Charity Organization"—papers by the Rev. S. H. Gurteen, the Rev. S. H. Giesy, and Robert Treat Paine, Esq.; "The Revision of the King James Version of the New Testament"—papers by the Rev. John Cotton Smith, D. D., the Hon. George Lunt, and the Rev. Walter Mitchell; "The Relations of Parishes to the Dioceses and the Dioceses to the General Convention, in the Matter of Jurisdiction and Representation"—papers by the Rev. John Henry Hopkins, D. D., the Rev. G. W. Ridgely, and the Rev. A. V. G. Allen, D. D.; "Liturgical Growth"—papers by the Rev. Joseph F. Garrison, M. D., the Rev. E. E. Beardsley, D. D., and the Rev. Phillips Brooks, D. D.; "Education of Divinity Students"—papers by the Rev. F. C. Ewen, D. D., the Rev. E. W. Donal, the Rev. Leighton Parks, and the Rev. R. B. Fairbairn, D. D.; "Spiritual Culture"—papers by the Rev. E. L. Stoddard, the Rev. Benjamin Franklin, D. D., and the Rev. J. S. Lindsay. Besides the papers, each of the subjects was considered in verbal addresses by "appointed speakers," who were followed by volunteer speakers.

The receipts of the *Committee for Domestic Missions* for the year, as reported at the meeting of the board in October, had been \$220,593, or, excluding legacies and special contributions, \$143,160. Its work had been conducted at an expense of four and a little more than one tenth per cent of the receipts. The committee had employed as agents in thirteen missionary jurisdictions and thirty dioceses—among white people, 12 missionary bishops and 288 clergymen; among colored people, 13 white clergymen, 11 colored clergymen, 3 lay readers, and 14 teachers; among the Chinese, 1 Chinese clergyman; among Indians, 1 missionary bishop, 12 white clergymen, 13 native clergymen, 1 white catechist, 9 native catechists, 3 teachers, and 13 women helpers; in all, 394 agents.

The receipts of the *Committee for Foreign Missions* had been \$185,758. The cost of administration and collection had been six and three tenths per cent of the amount realized. The condition of the missions was represented in the report as follows: Greece, 1 school at Athens with 1 American, 4 Greek assistants, and 4 pupil teachers; Africa, 1 bishop, 8 presbyters, 33 other agents, 357 communicants; China, 1 bishop, 6 presbyters, 66 other agents, 408 communicants; Japan, 1 bishop, 6 presbyters, 23 other agents, 101 communicants; Hayti, 1 bishop, 10 presbyters, 67 other agents, 364 communicants; Mexico, 1 bishop, 1 bishop-elect, 12 presbyters, 74 other agents, 3,301 attendants on public worship. *Pupils in Day and Boarding Schools*: In Greece, number not returned; in Africa, 488; in China, 726; in Japan, 74; in Hayti, 247; in Mexico, 468.

The *Woman's Auxiliary to the Board of Missions* received during the financial year of 1881 \$49,462 in money, and the value of \$94,233 in boxes, or contributions in kind, making a total of \$143,695. Its total receipts for the ten years of its existence amounted to \$789,195. The Society had during its past year maintained 150 scholarships and paid the salaries of 20 women missionaries, and now proposed the establishment of two salary funds—domestic and foreign—for the payment of all salaries of missionary women.

The annual meeting of the *Mexican League*, a society having for its object the education of a native ministry in Mexico, was held in the city of New York April 19th. The Bishop of Delaware presided at this meeting of the *League*. The receipts of the society for the year had been \$20,257, and it had a balance on hand of \$828. The receipts for the past five years had exceeded \$75,400.

PRUSSIA,* a kingdom of Europe, forming part of the German Empire. King, William I, German Emperor and King of Prussia. The Prussian Ministry at the close of 1881 was composed as follows: President of the Ministry, Minister of Foreign Affairs and of Commerce, Prince Bismarck; War, General Kameke; Public Works, Maybach; Finances, Bitter; Interior, Puttkammer; Agriculture, Dr. Lucius; Justice, Dr. Friedberg; Worship and Education, Von Gossler.

The population, according to the new census of 1880, amounted to 27,278,911, divided as follows among the different provinces and religious denominations:

PROVINCES.	Evangelical.	Roman Catholic.	Jews.	Others.	Total.
Eastern Prussia.....	1,655,493	249,708	18,218	10,517	1,933,936
Western Prussia.....	682,735	693,694	26,547	2,922	1,405,898
Brandenburg.....	3,182,529	181,529	66,245	8,852	3,839,155
Pomerania.....	1,498,864	23,873	13,886	3,411	1,540,034
Posen.....	532,517	1,111,962	56,609	2,309	1,703,397
Silesia.....	1,867,489	2,082,038	52,682	5,716	4,007,925
Saxony.....	2,154,663	145,498	6,700	5,146	2,312,007
Schleswig-Holstein.....	1,111,383	8,897	3,522	3,347	1,127,149
Hanover.....	1,842,045	258,806	14,790	4,527	2,120,168
Westphalia.....	949,533	1,070,107	18,510	4,792	2,043,242
Hesse-Nassau.....	1,057,597	420,353	41,316	5,080	1,554,376
Rhine Province.....	1,078,393	2,944,250	43,694	7,763	4,074,100
Hohenzollern.....	2,221	64,391	771	141	67,524
Total.....	17,645,462	9,205,186	363,790	64,528	27,278,911

The budget estimates of both revenue and expenditures during each of the four years from 1879 to 1882 (the financial year ending March 31st; in marks, one mark being equal to \$.238):

YEAR.	Revenue and expenditure each.
1879.....	713,857,764
1880.....	711,500,758
1881.....	799,200,581
1882.....	913,070,416

Direct taxes form the chief source of revenue, and, next to them, the receipts from state railways. In recent years the income from railways and other state undertakings, such as mines, has been largely increasing, showing a tendency to become a far more fruitful source

of revenue than all taxation, direct or indirect. The public debt of the kingdom, according to the budget of 1881-'82, was 1,995,312,989 marks, of which 86,470,666 marks were debts of the new provinces.

The Diet assembled after the holidays on January 8th, and adjourned on February 23d. Three questions particularly claimed the attention of the House during this session—the remission of three months' class taxes and the lower grades of the income-tax to the aggregate amount of 14,000,000 marks, the disposal

* For additional statistics and information, see article GERMANY.

of the moneys accruing to Prussia from the surplus of the imperial revenue, and the relation of the church to the state. Article V of the law of July 5, 1880, provided that any priest regularly appointed by the state might administer the sacraments and read mass in vacant parishes, or in those parishes whose priests were temporarily unable to attend to their duties. Herr Windthorst, the leader of the Catholic Center, introduced a bill early in the session to extend this privilege to priests not recognized by the state. The bill was considered on its first and second reading on January 26th. The Minister of Worship, Herr von Puttkammer, in the course of the debate, reminded the House that the same proposition had been opposed by the Government and voted down by a majority of the House a half-year previous, and he could see no reason why the Government should change its views now. He denied the assertion made by Herr Windthorst that the Catholic population of Prussia was not sufficiently provided with spiritual advisers. The total number of parishes in Prussia was 4,604, with 8,800,000 parishioners, of which 150 parishes, with 170,000 parishioners, or three per cent of the total number, were not properly provided for. He desired nothing more than peace, but did not think the proper way to secure it was to be constantly attacking the laws. After a spirited debate on the 27th, during which Herr von Bennigsen spoke against the bill, and Herren Windthorst and Reichensperger for it, the bill was defeated by a vote of 254 to 115. Among those voting for the bill were the members of the Center, the Poles, and a few Liberals and Progressists. Notwithstanding the hostile attitude of the Government to the propositions of the Catholic Center, the negotiations with the Vatican, which were begun in 1880, continued during 1881. According to the law of 1880, an administrator may be appointed for a diocese by a ministerial order, without requiring him to subscribe the required oath, as long as he performed his other duties to the state. This was done in the dioceses of Paderborn and Osnabrück; while Treves received a bishop in the person of Dr. Korum, and Fulda in the person of Dr. Kapp, of whom particularly Dr. Korum had in former years made himself obnoxious to the Prussian Government. In Fulda the sequestrated property of the chapter was restored by the Government, while in the district of Minden the Catholic priests were again permitted to take part in the inspection of the schools. Another concession made by the Prussian Government to the Vatican was the restoration of the Prussian legation to the Holy See. Negotiations had been conducted for some time by Kurd von Schlözer, the German Minister in Washington, who had been sent to Rome on a special mission. On November 30th Professor Virchow, in the German Parliament, asked, during the discussion of the budget of the Ministry of Foreign Affairs, for information on the negotiations with the Vatican.

Prince Bismarck, in reply, declared that no negotiations were on foot between the empire and the Vatican. The Prussian Diet would furnish an opportunity to give further explanations, as Prussia, of all other states, was most interested. An amount would be asked for in the Prussian budget to enable the Government to bring about a direct diplomatic intercourse between the Vatican and Prussia.

The discussion on the bill for the remission of taxes was begun on January 28th. It showed that it was barely expected that the measure could be permanently carried out. The Right even brought forward a financial plan of their own. The Minister of Finance opposed it most energetically. In the course of his speech he spoke of the financial condition of the kingdom, which, he declared, was improving. The bill was finally passed by a vote of 243 to 106, although the different groups voting for it were actuated by widely different motives. In the House of Lords the bill was passed by a majority of 53, after a stormy debate, in the course of which the former Minister of Finance, Camphausen, severely criticised the present financial policy of the Chancellor. Prince Bismarck, in reply, held Herr Camphausen responsible for the present financial crisis, and compared Prussia, upon Herr Camphausen's retirement, to an estate which had been completely exhausted.

The debate on the first reading of the bill providing for the disposal of moneys accruing to Prussia from the surplus of the imperial revenue due to the new indirect taxes was begun on February 3d. In the course of the debate Herr Richter, the leader of the party of Progress, and at present considered the ablest debater in the German Parliament, vehemently attacked Prince Bismarck's customs policy, the failure of which, he said, the Chancellor was trying to cover by empty promises. The official reports respecting the improved condition of commerce and industry were fabrications. The decadence of trade was solely owing to Prince Bismarck's policy. The rise in the price of food and the duties on grain and petroleum had caused the present distress, which the bill was not calculated to alleviate. Prince Bismarck said the bill would have to be passed by the aid of a supplementary session of the Diet. The object of the bill was to improve German agriculture, and to protect it from the effects of bad harvests in other countries. His principle was to equalize the rate of direct taxation, which was too high, with the rate of indirect taxation, which was too low. Of the direct taxes he only desired to retain for the Government the income-taxes, while he was willing to hand over the other taxes to the districts and communes. In this way he wished to relieve those who earned their livelihood by manual labor from all taxation. On the subject of monopolies he said: "Tobacco must produce more revenue than hitherto. I must have larger resources, and I consider tobacco the most suitable means of obtaining them."

Parliamentary conflicts will not make me swerve from my principles, and I shall not retire until the Emperor commands me to do so." In conclusion, he called upon the House not to let this matter rest, but to push it earnestly, and thus relieve the communes of some of their burdens. The bill on February 5th was referred to a special committee.

The reform of local administration led to a Cabinet crisis in February. The Lower House had amended the Government bill to the effect that the supervision of the local administration be intrusted to a local council instead of to the Landrath, the local government official, as was proposed by the bill. When returned to the House of Lords, Count von Eulenburg accepted the amendment. A few minutes afterward Herr Rommel, a clerk in the Ministry of Commerce, Prince Bismarck's special department, stated that the Chancellor's presence was prevented by illness, and read a paper to the effect that Prince Bismarck could not consent to intrust the supervision of communes to irresponsible bodies. He would submit the bill to the Emperor, but would insist on its revision in a government sense before applying it to other provinces. This declaration caused the greatest excitement in the House, and although the bill was adopted as amended by the Lower House, thus giving Count Eulenburg a vote of confidence, the latter asked to be relieved of his office, which request was granted by the Emperor. The bill was finally lost, as the two Houses could not agree upon it.

Important ministerial changes occurred in June when the Minister of Worship, Von Puttkammer, was appointed Minister of the Interior in place of Count Eulenburg; while Herr von Gossler, Under-Secretary of State and the President of the German Parliament, was appointed Minister of Worship.

The new Economical Council, created by law of November 15, 1880, met on January 27th and closed February 11th. It consists of seventy-five members, who are to serve for five years. It is to give its opinion on drafts of bills and decrees relating to important economical interest in commerce, trades, agriculture, and forestry, before they are submitted to the King for ratification; also the motions to be made and the votes to be cast by the Prussian members of the Federal Council so far as they relate to economical questions. The principal question considered by the Council was the Accident Insurance Bill which was submitted to the German Parliament. (See GERMANY.)

Disturbances directed against the Jews occurred in the provinces of Pomerania and West Prussia, and in the city of Berlin. A strong agitation against them was led by numerous prominent men, among them the court preacher, Stöcker. Many petitions directed against the Jews, signed by over 250,000 persons, were sent to the German Parliament. In the fall of the year the Government took ener-

getic measures to abate the excitement and to stop the agitation. (See JEWS, etc.)

The Government purchased a number of railroads during the year, although the Rhein-Nahe Railroad, which caused considerable discussion in the Diet, was not among the number.

PUBLIC DOCUMENTS. *Message of President ARTHUR, at the First Session of the Forty-seventh Congress, commencing December 6, 1881.*

TO THE SENATE AND HOUSE OF REPRESENTATIVES OF THE UNITED STATES: An appalling calamity has befallen the American people since their chosen representatives last met in the halls where you are now assembled. We might else recall with unalloyed content the rare prosperity with which throughout the year the nation has been blessed. Its harvests have been plenteous; its varied industries have thriven; the health of its people has been preserved; it has maintained with foreign governments the undisturbed relations of amity and peace. For these manifestations of his favor, we owe to Him who holds our destiny in his hands the tribute of our grateful devotion.

To that mysterious exercise of his will, which has taken from us the loved and illustrious citizen who was but lately the head of the nation, we bow in sorrow and submission.

The memory of his exalted character, of his noble achievements, and of his patriotic life will be treasured for ever as a sacred possession of the whole people.

The announcement of his death drew from foreign governments and peoples tributes of sympathy and sorrow which history will record as signal tokens of the kinship of nations and the federation of mankind.

The feeling of good-will between our own Government and that of Great Britain was never more marked than at present. In recognition of this pleasing fact, I directed, on the occasion of the late centennial celebration at Yorktown, that a salute be given to the British flag.

Save for the correspondence to which I shall refer hereafter in relation to the proposed canal across the Isthmus of Panama, little has occurred worthy of mention in the diplomatic relations of the two countries.

Early in the year the Fortune Bay claims were satisfactorily settled by the British Government paying in full the sum of £15,000, most of which has been already distributed. As the terms of the settlement included compensation for injuries suffered by our fishermen at Aspee Bay, there has been retained from the gross award a sum which is deemed adequate for those claims.

The participation of Americans in the exhibitions at Melbourne and Sydney will be approvingly mentioned in the reports of the two exhibitions, soon to be presented to Congress. They will disclose the readiness of our countrymen to make successful competition in distant fields of enterprise.

Negotiations for an International Copyright Convention are in hopeful progress.

The surrender of Sitting Bull and his forces upon the Canadian frontier has allayed apprehension, although bodies of British Indians still cross the border in quest of sustenance. Upon this subject a correspondence has been opened, which promises an adequate understanding. Our troops have orders to avoid meanwhile all collisions with alien Indians.

The presence at the Yorktown celebration of representatives of the French Republic and descendants of Lafayette and of his gallant compatriots who were our allies in the Revolution, has served to strengthen the spirit of good-will which has always existed between the two nations.

You will be furnished with the proceedings of the Bi-metallic Conference held during the summer at the city of Paris. No accord was reached, but a valuable

interchange of views was had, and the conference will next year be renewed.

At the Electrical Exhibition and Congress also held at Paris, this country was creditably represented by eminent specialists who, in the absence of an appropriation, generously lent their efficient aid at the instance of the State Department. While our exhibitors in this almost distinctively American field of achievement have won several valuable awards, I recommend that Congress provide for the repayment of the personal expenses incurred, in the public interest, by the honorary commissioners and delegates.

No new questions respecting the status of our naturalized citizens in Germany have arisen during the year, and the causes of complaint, especially in Alsace and Lorraine, have practically ceased through the liberal action of the Imperial Government in accepting our often-expressed views on the subject. The application of the treaty of 1868 to the lately acquired Rhenish provinces has received very earnest attention, and a definite and lasting agreement on this point is confidently expected. The participation of the descendants of Baron von Steuben in the Yorktown festivities, and their subsequent reception by their American kinsmen, strikingly evinced the ties of good-will which unite the German people and our own.

Our intercourse with Spain has been friendly. An agreement concluded in February last fixes a term for the labors of the Spanish and American Claims Commission. The Spanish Government has been requested to pay the late awards of that commission, and will, it is believed, accede to the request as promptly and courteously as on former occasions.

By recent legislation onerous fines have been imposed upon American shipping in Spanish and colonial ports for slight irregularities in manifests. One case of hardship is specially worthy of attention. The bark *Masonic*, bound for Japan, entered Manila in distress, and is there sought to be confiscated under Spanish revenue laws for an alleged shortage in her transshipped cargo. Though efforts for her relief have thus far proved unavailing, it is expected that the whole matter will be adjusted in a friendly spirit.

The Senate resolutions of condolence on the assassination of the Czar Alexander II were appropriately communicated to the Russian Government, which in turn has expressed its sympathy in our late national bereavement. It is desirable that our cordial relations with Russia should be strengthened by proper engagements, assuring to peaceable Americans who visit the empire the consideration which is due to them as citizens of a friendly state. This is especially needful with respect to American Israelites, whose classification with the native Hebrews has evoked energetic remonstrances from this Government.

A supplementary consular agreement with Italy has been sanctioned and proclaimed, which puts at rest conflicts of jurisdiction in the case of crimes on ship-board.

Several important international conferences have been held in Italy during the year. At the Geographical Congress of Venice, the Beneficence Congress of Milan, and the Hygienic Congress of Turin, this country was represented by delegates from branches of the public service, or by private citizens duly accredited in an honorary capacity. It is hoped that Congress will give such prominence to the results of their participation as they may seem to deserve.

The abolition of all discriminating duties against such colonial productions of the Dutch East Indies as are imported hither from Holland has been already considered by Congress. I trust that at the present session the matter may be favorably concluded.

The insecurity of life and property in many parts of Turkey has given rise to correspondence with the Porte, looking particularly to the better protection of American missionaries in the empire. The condemned murderer of the eminent missionary Dr. Justin W. Parsons has not yet been executed, although this

Government has repeatedly demanded that exemplary justice be done.

The Swiss Government has again solicited the good offices of our diplomatic and consular agents for the protection of its citizens in countries where it is not itself represented. This request has, within proper limits, been granted.

Our agents in Switzerland have been instructed to protest against the conduct of the authorities of certain communes in permitting the emigration to this country of criminals and other objectionable persons. Several such persons, through the co-operation of the Commissioners of Emigration at New York, have been sent back by the steamers which brought them. A continuance of this course may prove a more effectual remedy than diplomatic remonstrance.

Treaties of commerce and navigation, and for the regulation of consular privileges, have been concluded with Roumania and Servia since their admission into the family of European states.

As is natural with contiguous states having like institutions and like aims of advancement and development, the friendship of the United States and Mexico has been constantly maintained. This Government has lost no occasion of encouraging the Mexican Government to a beneficial realization of the mutual advantages which will result from more intimate commercial intercourse, and from the opening of the rich interior of Mexico to railway enterprise. I deem it important that means be provided to restrain the lawlessness unfortunately so common on the frontier, and to suppress the forays of the reservation Indians on either side of the Rio Grande.

The neighboring states of Central America have preserved internal peace, and their outward relations toward us have been those of intimate friendship. There are encouraging signs of their growing disposition to subordinate their local interests to those which are common to them by reason of their geographical relations.

The boundary dispute between Guatemala and Mexico has afforded this Government an opportunity to exercise its good offices for preventing a rupture between those states, and for procuring a peaceable solution of the question. I cherish strong hope that in view of our relations of amity with both countries our friendly counsels may prevail.

A special envoy of Guatemala has brought to me the condolences of his government and people on the death of President Garfield.

The Costa Rican Government lately framed an engagement with Colombia for settling by arbitration the boundary question between those countries, providing that the post of arbitrator should be offered successively to the King of the Belgians, the King of Spain, and the President of the Argentine Confederation. The King of the Belgians has declined to act, but I am not as yet advised of the action of the King of Spain. As we have certain interests in the disputed territory which are protected by our treaty engagements with one of the parties, it is important that the arbitration should not, without our consent, affect our rights, and this Government has accordingly thought proper to make its views known to the parties to the agreement, as well as to intimate them to the Belgian and Spanish Governments.

The questions growing out of the proposed inter-oceanic water-way across the Isthmus of Panama are of grave national importance. This Government has not been unmindful of the solemn obligations imposed upon it by its compact of 1846 with Colombia, as the independent and sovereign mistress of the territory crossed by the canal, and has sought to render them effective by fresh engagements with the Colombian Republic looking to their practical execution. The negotiations to this end, after they had reached what appeared to be a mutually satisfactory solution here, were met in Colombia by a disavowal of the powers which its envoy had assumed, and by a proposal for renewed negotiation on a modified basis.

Meanwhile this Government learned that Colombia had proposed to the European powers to join in a guarantee of the neutrality of the proposed Panama Canal—a guarantee which would be in direct contravention of our obligation as the sole guarantor of the integrity of Colombian territory and of the neutrality of the canal itself. My lamented predecessor felt it his duty to place before the European powers the reasons which make the prior guarantee of the United States indispensable, and for which the interjection of any foreign guarantee might be regarded as a superfluous and unfriendly act.

Foreseeing the probable reliance of the British Government on the provisions of the Clayton-Bulwer treaty of 1850, as affording room for a share in the guarantees which the United States covenanted with Colombia four years before, I have not hesitated to supplement the action of my predecessor by proposing to her Majesty's Government the modification of that instrument and the abrogation of such clauses thereof as do not comport with the obligations of the United States toward Colombia, or with the vital needs of the two friendly parties to the compact.

This Government sees with great concern the continuance of the hostile relations between Chili, Bolivia, and Peru. An early peace between these republics is much to be desired, not only that they may themselves be spared further misery and bloodshed, but because their continued antagonism threatens consequences which are, in my judgment, dangerous to the interests of republican government on this continent, and calculated to destroy the best elements of our free and peaceful civilization.

As in the present excited condition of popular feeling in these countries there has been serious misapprehension of the position of the United States, and as separate diplomatic intercourse with each through independent ministers is sometimes subject, owing to the want of prompt reciprocal communication, to temporary misunderstanding, I have deemed it judicious, at the present time, to send a special envoy, accredited to all and each of them, and furnished with general instructions, which will, I trust, enable him to bring these powers into friendly relations.

The Government of Venezuela maintains its attitude of warm friendship, and continues with great regularity its payment of the monthly quota of the diplomatic debt. Without suggesting the direction in which Congress should act, I ask its attention to the pending questions affecting the distribution of the sums thus far received.

The relations between Venezuela and France, growing out of the same debt, have been for some time past in an unsatisfactory state, and this Government, as the neighbor and one of the largest creditors of Venezuela, has interposed its influence with the French Government with the view of producing a friendly and honorable adjustment.

I regret that the commercial interests between the United States and Brazil, from which great advantages were hoped a year ago, have suffered from the withdrawal of the American lines of communication between the Brazilian ports and our own.

Through the efforts of our Minister Resident at Buenos Ayres and the United States Minister at Santiago, a treaty has been concluded between the Argentine Republic and Chili, disposing of the long-pending Patagonian boundary question. It is a matter of congratulation that our Government has been afforded the opportunity of successfully exerting its good influence for the prevention of disagreements between these republics of the American Continent.

I am glad to inform you that the treaties lately negotiated with China have been duly ratified on both sides, and the exchange made at Peking. Legislation is necessary to carry their provisions into effect. The prompt and friendly spirit with which the Chinese Government, at the request of the United States, conceded the modification of existing treaties, should secure careful regard for the interests and suscepti-

bilities of that Government in the enactment of any laws relating to Chinese immigration.

Those clauses of the treaties which forbid the participation of citizens or vessels of the United States in the opium-trade will doubtless receive your approval. They will attest the sincere interest which our people and Government feel in the commendable efforts of the Chinese Government to put a stop to this demoralizing and destructive traffic.

In relation both to China and Japan, some changes are desirable in our present system of consular jurisdiction. I hope at some future time to lay before you a scheme for its improvement in the entire East.

The intimacy between our own country and Japan, the most advanced of the Eastern nations, continues to be cordial. I am advised that the Emperor contemplates the establishment of full constitutional government, and that he has already summoned a parliamentary congress for the purpose of effecting the change. Such a remarkable step toward complete assimilation with the Western system can not fail to bring Japan into closer and more beneficial relationship with ourselves as the chief Pacific power.

A question has arisen in relation to the exercise in that country of the judicial functions conferred upon our ministers and consuls. The indictment, trial, and conviction in the consular court at Yokohama of John Ross, a merchant-seaman on board an American vessel, have made it necessary for the Government to institute a careful examination into the nature and methods of this jurisdiction.

It appeared that Ross was regularly shipped under the flag of the United States, but was by birth a British subject. My predecessor felt it his duty to maintain the position that, during his service as a regularly shipped seaman on board an American merchant-vessel, Ross was subject to the laws of that service and to the jurisdiction of the United States consular authorities.

I renew the recommendation which has been heretofore urged by the Executive upon the attention of Congress, that after the deduction of such amount as may be found due to American citizens, the balance of the indemnity funds heretofore obtained from China and Japan, and which are now in the hands of the State Department, be returned to the governments of those countries.

The King of Hawaii, in the course of his homeward return after a journey around the world, has lately visited this country. While our relations with that kingdom are friendly, this Government has viewed with concern the efforts to seek replenishment of the diminishing population of the islands from outward sources, to a degree which may impair the native sovereignty and independence, in which the United States was among the first to testify a lively interest.

Relations of unimpaired amity have been maintained throughout the year with the respective Governments of Austria-Hungary, Belgium, Denmark, Hayti, Paraguay and Uruguay, Portugal, and Sweden and Norway. This may also be said of Greece and Ecuador, although our relations with those states have for some years been severed by the withdrawal of appropriations for diplomatic representatives at Athens and Quito. It seems expedient to restore those missions, even on a reduced scale, and I decidedly recommend such a course with respect to Ecuador, which is likely, within the near future, to play an important part among the nations of the Southern Pacific.

At its last extra session the Senate called for the text of the Geneva Convention for the relief of the wounded in war. I trust that this action foreshadows such interest in the subject as will result in the adhesion of the United States to that humane and commendable engagement.

I invite your attention to the propriety of adopting the new Code of International Rules for the Prevention of Collisions on the high seas, and of conforming the domestic legislation of the United States thereto,

so that no confusion may arise from the application of conflicting rules in the case of vessels of different nationalities meeting in tidal waters. These international rules differ but slightly from our own. They have been adopted by the Navy Department for the governance of the war-ships of the United States on the high seas and in foreign waters; and, through the action of the State Department in disseminating the rules, and in acquainting ship-masters with the option of conforming to them without the jurisdictional waters of the United States, they are now very generally known and obeyed.

The State Department still continues to publish to the country the trade and manufacturing reports received from its officers abroad. The success of this course warrants its continuance, and such appropriation as may be required to meet the rapidly increasing demand for these publications. With special reference to the Atlanta Cotton Exposition, the October number of the reports was devoted to a valuable collection of papers on the cotton goods trade of the world.

The International Sanitary Conference, for which, in 1879, Congress made provision, assembled in this city early in January last, and its sessions were prolonged until March. Although it reached no specific conclusions affecting the future action of the participant powers, the interchange of views proved to be most valuable. The full protocols of the session have been already presented to the Senate.

As pertinent to this general subject, I call your attention to the operations of the National Board of Health. Established by act of Congress approved March 3, 1879, its sphere of duty was enlarged by the act of June 2d, in the same year. By the last-named act the board was required to institute such measures as might be deemed necessary for preventing the introduction of contagious or infectious diseases from foreign countries into the United States, or from one State into another.

The execution of the rules and regulations prepared by the board and approved by my predecessor has done much to arrest the progress of epidemic disease, and has thus rendered substantial service to the nation.

The International Sanitary Conference, to which I have referred, adopted a form of a bill of health to be used by all vessels seeking to enter the ports of the countries whose representatives participated in its deliberations. This form has since been prescribed by the National Board of Health, and incorporated with its rules and regulations, which have been approved by me in pursuance of law.

The health of the people is of supreme importance. All measures looking to their protection against the spread of contagious diseases, and to the increase of our sanitary knowledge for such purposes, deserve attention of Congress.

The report of the Secretary of the Treasury presents in detail a highly satisfactory exhibit of the state of the finances and the condition of the various branches of the public service administered by that department.

The ordinary revenues from all sources, for the fiscal year ending June 30, 1881, were:

From customs.....	\$198,159,676 02
From internal revenue.....	185,264,385 51
From sales of public lands.....	2,201,863 17
From tax on circulation and deposits of national banks.....	8,116,115 72
From repayment of interest by Pacific Railway Companies.....	810,833 80
From sinking fund for Pacific Railway Companies.....	805,180 54
From customs fees, fines, penalties, etc.....	1,225,514 86
From fees—consular, letters—patent, and lands	2,244,983 98
From proceeds of sales of Government property.....	262,174 00
From profits on coinage.....	3,468,485 61
From revenues of the District of Columbia..	2,016,199 23
From miscellaneous sources.....	6,206,980 18
Total ordinary receipts.....	\$360,782,292 57

The ordinary expenditures for the same period were:

For civil expenses.....	\$17,941,177 19
For foreign intercourse.....	1,093,954 92
For Indians.....	6,514,161 09
For Pensions.....	50,059,279 62
For the military establishment, including river and harbor improvements and arsenals.....	40,466,460 55
For the naval establishment, including vessels, machinery, and improvements at navy-yards.....	15,686,671 66
For miscellaneous expenditures, including public buildings, light-houses, and collecting the revenue.....	41,837,280 57
For expenditures on account of the District of Columbia.....	3,543,912 03
For interest on the public debt.....	82,508,741 18
For premium on bonds purchased.....	1,061,248 78

Total ordinary expenditures.....	\$260,712,887 59
Leaving a surplus revenue of.....	\$100,069,404 98

Which was applied as follows:

To the redemption of—	
Bonds for the sinking fund.....	\$74,371,200 00
Fractional currency for the sinking fund..	109,001 05
Loan of February, 1861.....	7,418,000 00
Ten-forties of 1864.....	2,016,150 00
Five-twenties of 1862.....	18,300 00
Five-twenties of 1864.....	3,400 00
Five-twenties of 1865.....	37,300 00
Consols of 1865.....	143,150 00
Consols of 1867.....	959,150 00
Consols of 1868.....	837,400 00
Texan indemnity stock.....	1,000 00
Old demand, compound-interest, and other notes.....	18,330 00
And to the increase of cash in the Treasury	14,637,023 98
Total.....	\$100,069,404 98

The requirements of the sinking fund for the year amounted to \$90,786,064.02, which sum included a balance of \$49,817,128.78, not provided for during the previous fiscal year. The sum of \$74,480,201.05 was applied to this fund, which left a deficit of \$16,305,873.47. The increase of the revenues for 1881 over those of the previous year was \$29,352,901.10. It is estimated that the receipts during the present fiscal year will reach \$400,000,000, and the expenditures \$270,000,000, leaving a surplus of \$130,000,000 applicable to the sinking fund and the redemption of the public debt.

I approve the recommendation of the Secretary of the Treasury, that provision be made for the early retirement of silver certificates, and that the act requiring their issue be repealed. They were issued in pursuance of the policy of the Government to maintain silver at or near the gold standard, and were accordingly made receivable for all customs, taxes, and public dues. About sixty-six millions of them are now outstanding. They form an unnecessary addition to the paper currency, a sufficient amount of which may be readily supplied by the national banks.

In accordance with the act of February 28, 1878, the Treasury Department has, monthly, caused at least two millions in value of silver bullion to be coined into standard silver dollars. One hundred and two million of these dollars have been already coined, while only about thirty-four millions are in circulation.

For the reasons which he specifies, I concur in the Secretary's recommendation that the provision for coinage of a fixed amount each month be repealed, and that hereafter only so much be coined as shall be necessary to supply the demand.

The Secretary advises that the issue of gold certificates should not for the present be resumed, and suggests that the national banks may properly be forbidden by law to retire their currency except upon reasonable notice of their intention so to do. Such legislation would seem to be justified by the recent

action of certain banks on the occasion referred to in the Secretary's report.

Of the fifteen millions of fractional currency still outstanding, only about eighty thousand has been redeemed the past year. The suggestion that this amount may properly be dropped from future statements of the public debt seems worthy of approval.

So, also, does the suggestion of the Secretary as to the advisability of relieving the calendar of the United States courts in the Southern District of New York, by the transfer to another tribunal of the numerous suits there pending against collectors.

The revenue from customs for the past fiscal year was \$198,159,676.02, an increase of \$11,637,611.42 over that of the year preceding: \$138,098,562.39 of this amount was collected at the port of New York, leaving \$50,251,113.63 as the amount collected at all the other ports of the country. Of this sum, \$47,977,187.63 was collected on sugar, molado, and molasses; \$27,285,624.78 on wool and its manufactures; \$21,462,534.34 on iron and steel, and manufactures thereof; \$19,038,665.81 on manufactures of silk; \$10,825,115.21 on manufactures of cotton; and \$6,469,643.04 on wines and spirits; making a total revenue from these sources of \$133,058,720.81.

The expenses of collection for the past year were \$6,419,345.20, an increase over the preceding year of \$387,410.04. Notwithstanding the increase in the revenue from customs over the preceding year, the gross value of the imports, including free goods, decreased over twenty-five millions of dollars. The most marked decrease was in the value of unmanufactured wool, \$14,023,632, and in that of scrap and pig iron, \$12,810,671. The value of imported sugar, on the other hand, showed an increase of \$7,457,474; of steel rails, \$4,345,521; of barley, \$2,154,204; and of steel in bars ingots, etc., \$1,620,046.

Contrasted with the imports during the last fiscal year, the exports were as follows:

Domestic merchandise.....	\$383,925,947
Foreign merchandise.....	18,451,399
Total.....	\$402,377,346
Imports of merchandise.....	642,664,628
Excess of exports over imports of merchandise.....	\$259,712,718
Aggregate of exports and imports.....	1,545,041,974

Compared with the previous year, there was an increase of \$66,738,688 in the value of exports of merchandise, and a decrease of \$25,290,118 in the value of imports. The annual average of the excess of imports of merchandise over exports thereof, for ten years previous to June 30, 1873, was \$104,706,922; but for the last six years there has been an excess of exports over imports of merchandise amounting to \$1,180,668,105, an annual average of \$196,778,017. The specie value of the exports of domestic merchandise was \$376,616,473 in 1870, and \$883,925,947 in 1881, an increase of \$507,309,474, or 135 per cent. The value of imports was \$435,958,408 in 1870, and \$642,664,628 in 1881, an increase of \$206,706,220, or 47 per cent.

During each year from 1862 to 1879, inclusive, the exports of specie exceeded the imports. The largest excess of such exports over imports was reached during the year 1864, when it amounted to \$92,280,929. But during the year ended June 30, 1880, the imports of coin and bullion exceeded the exports by \$75,891,391; and during the last fiscal year the excess of imports over exports was \$91,168,650.

In the last annual report of the Secretary of the Treasury the attention of Congress was called to the fact that \$469,651,050 in five per centum bonds and \$203,573,750 in six per centum bonds would become redeemable during the year, and Congress was asked to authorize the refunding of these bonds at a lower rate of interest. The bill for such refunding having failed to become a law, the Secretary of the Treasury, in April last, notified the holders of the \$195,690,400 six per centum bonds then outstanding, that the bonds

would be paid at par on the first day of July following, or that they might be "continued" at the pleasure of the Government, to bear interest at the rate of three and one half per centum per annum.

Under this notice \$178,055,150 of the six per centum bonds were continued at the lower rate, and \$17,635,250 were redeemed.

In the month of May a like notice was given respecting the redemption or continuance of the \$439,841,350 of five per centum bonds then outstanding, and of these, \$401,504,900 were continued at three and one half per centum per annum, and \$38,336,450 redeemed.

The six per centum bonds of the loan of February 8, 1861, and of the Oregon war debt, amounting together to \$14,125,800, having matured during the year, the Secretary of the Treasury gave notice of his intention to redeem the same, and such as have been presented have been paid from the surplus revenues. There have also been redeemed at par \$16,179,100 of the three and one half per centum "continued" bonds, making a total of bonds redeemed, or which have ceased to bear interest during the year, of \$123,969,650.

The reduction of the annual interest on the public debt through these transactions is as follows:

By reduction of interest to three and one half per cent.....	\$10,473,952 25
By redemption of bonds.....	6,352,340 00
Total.....	\$16,826,292 25

The three and one half per centum bonds, being payable at the pleasure of the Government, are available for the investment of surplus revenue without the payment of premiums.

Unless these bonds can be funded at a much lower rate of interest than they now bear, I agree with the Secretary of the Treasury that no legislation respecting them is desirable.

It is a matter for congratulation that the business of the country has been so prosperous during the past year as to yield by taxation a large surplus of income to the Government. If the revenue laws remain unchanged this surplus must, year by year, increase, on account of the reduction of the public debt and its burden of interest, and because of the rapid increase of our population. In 1860, just prior to the institution of our internal-revenue system, our population but slightly exceeded 30,000,000; by the census of 1880 it is now found to exceed 50,000,000. It is estimated that even if the annual receipts and expenditures should continue as at present, the entire debt could be paid in ten years.

In view, however, of the heavy load of taxation which our people have already borne, we may well consider whether it is not the part of wisdom to reduce the revenues, even if we delay a little the payment of the debt.

It seems to me that the time has arrived when the people may justly demand some relief from their present onerous burden, and that, by due economy in the various branches of the public service, this may readily be afforded.

I therefore concur with the Secretary in recommending the abolition of all internal-revenue taxes, except those upon tobacco in its various forms, and upon distilled spirits and fermented liquors; and except also the special tax upon the manufacturers of, and dealers in, such articles. The retention of the latter tax is desirable as affording the officers of the Government a proper supervision of these articles for the prevention of fraud. I agree with the Secretary of the Treasury, that the law imposing a stamp-tax upon matches, proprietary articles, playing-cards, checks, and drafts, may with propriety be repealed, and the law also by which banks and bankers are assessed upon their capital and deposits. There seems to be a general sentiment in favor of this course.

In the present condition of our revenues the tax upon deposits is especially unjust. It was never im-

posed in this country until it was demanded by the necessities of war, and was never exacted, I believe, in any other country, even in its greatest exigencies. Banks are required to secure their circulation by pledging with the Treasurer of the United States bonds of the General Government. The interest upon these bonds, which at the time when the tax was imposed was 6 per cent, is now, in most instances, 3½ per cent. Besides, the entire circulation was originally limited by law and no increase was allowable. When the existing banks had practically a monopoly of the business, there was force in the suggestion, that for the franchise to the favored grantees the Government might very properly exact a tax on circulation; but for years the system has been free, and the amount of circulation regulated by the public demand.

The retention of this tax has been suggested as a means of reimbursing the Government for the expense of printing and furnishing the circulating notes. If the tax should be repealed, it would certainly seem proper to require the national banks to pay the amount of such expense to the Comptroller of the Currency.

It is perhaps doubtful whether the immediate reduction of the rate of taxation upon liquors and tobacco is advisable, especially in view of the drain upon the Treasury which must attend the payment of arrears of pensions. A comparison, however, of the amount of taxes collected under the varying rates of taxation which have at different times prevailed, suggests the intimation that some reduction may soon be made without material diminution of the revenue.

The tariff laws also need revision; but, that a due regard may be paid to the conflicting interests of our citizens, important changes should be made with caution. If a careful revision can not be made at this session, a commission, such as was lately approved by the Senate and is now recommended by the Secretary of the Treasury, would doubtless lighten the labors of Congress whenever this subject shall be brought to its consideration.

The accompanying report of the Secretary of War will make known to you the operations of that department for the past year.

He suggests measures for promoting the efficiency of the army without adding to the number of its officers, and recommends the legislation necessary to increase the number of enlisted men to thirty thousand, the maximum allowed by law.

His he deems necessary to maintain quietude on our ever-shifting frontier; to preserve peace and suppress disorder and marauding in new settlements; to protect settlers and their property against Indians, and Indians against the encroachments of intruders; and to enable peaceable immigrants to establish homes in the most remote parts of our country.

The army is now necessarily scattered over such a vast extent of territory that, whenever an outbreak occurs, re-enforcements must be hurried from many quarters, over great distances, and always at heavy cost for transportation of men, horses, wagons, and supplies.

I concur in the recommendations of the Secretary for increasing the army to the strength of thirty thousand enlisted men.

It appears by the Secretary's report that in the absence of disturbances on the frontier the troops have been actively employed in collecting the Indians hitherto hostile, and locating them on their proper reservations; that Sitting Bull and his adherents are now prisoners at Fort Randall; that the Utes have been moved to their new reservation in Utah; that during the recent outbreak of the Apaches it was necessary to re-enforce the garrisons in Arizona by troops withdrawn from New Mexico; and that some of the Apaches are now held prisoners for trial, while some have escaped, and the majority of the tribe are now on their reservation.

There is need of legislation to prevent intrusion upon the lands set apart for the Indians. A large military force, at great expense, is now required to

patrol the boundary-line between Kansas and the Indian Territory. The only punishment that can at present be inflicted is the forcible removal of the intruder and the imposition of a pecuniary fine, which, in most cases, it is impossible to collect. There should be a penalty by imprisonment in such cases.

The separate organization of the Signal Service is urged by the Secretary of War, and a full statement of the advantages of such permanent organization is presented in the report of the Chief Signal Officer. A detailed account of the useful work performed by the Signal Corps and the Weather Bureau is also given in that report.

I ask attention to the statements of the Secretary of War regarding the requisitions frequently made by the Indian Bureau upon the Subsistence Department of the Army for the casual support of bands and tribes of Indians whose appropriations are exhausted. The War Department should not be left, by reason of inadequate provision for the Indian Bureau, to contribute for the maintenance of Indians.

The report of the Chief of Engineers furnishes a detailed account of the operations for the improvement of rivers and harbors.

I commend to your attention the suggestions contained in this report in regard to the condition of our fortifications, especially our coast defenses, and recommend an increase of the strength of the Engineer Battalion, by which the efficiency of our torpedo system would be improved.

I also call your attention to the remarks upon the improvement of the South Pass of the Mississippi River, the proposed free bridge over the Potomac River at Georgetown, the importance of completing at an early day the north wing of the War Department building, and other recommendations of the Secretary of War which appear in his report.

The actual expenditures of that department for the fiscal year ending June 30, 1881, were \$42,122,201.89. The appropriations for the year 1882 were \$44,889,725.42. The estimates for 1883 are \$44,541,276.91.

The report of the Secretary of the Navy exhibits the condition of that branch of the service, and presents valuable suggestions for its improvement. I call your especial attention also to the appended report of the Advisory Board, which he convened to devise suitable measures for increasing the efficiency of the navy, and particularly to report as to the character and number of vessels necessary to place it upon a footing commensurate with the necessities of the Government.

I can not too strongly urge upon you my conviction that every consideration of national safety, economy, and honor imperatively demands a thorough rehabilitation of our navy.

With a full appreciation of the fact that compliance with the suggestions of the head of that department and of the Advisory Board must involve a large expenditure of the public moneys, I earnestly recommend such appropriations as will accomplish an end which seems to me so desirable.

Nothing can be more inconsistent with true public economy than withholding the means necessary to accomplish the objects intrusted by the Constitution to the national Legislature. One of those objects, and one which is of paramount importance, is declared by our fundamental law to be the provision for the "common defense." Surely nothing is more essential to the defense of the United States and of all our people than the efficiency of our navy.

We have for many years maintained with foreign governments the relations of honorable peace, and that such relations may be permanent is desired by every patriotic citizen of the republic.

But if we heed the teachings of history we shall not forget that in the life of every nation emergencies may arise when a resort to arms can alone save it from dishonor.

No danger from abroad now threatens this people, nor have we any cause to distrust the friendly professions of other governments.

But for avoiding as well as for repelling dangers that may threaten us in the future, we must be prepared to enforce any policy which we think wise to adopt.

We must be ready to defend our harbors against aggression, to protect, by the distribution of our ships of war over the highways of commerce, the varied interests of our foreign trade, and the persons and property of our citizens abroad, to maintain everywhere the honor of our flag, and the distinguished position which we may rightfully claim among the nations of the world.

The report of the Postmaster-General is a gratifying exhibit of the growth and efficiency of the postal service.

The receipts from postage and other ordinary sources during the past fiscal year were \$36,489,816.58. The receipts from the money-order business were \$295,581.39, making a total of \$36,785,397.97. The expenditure for the fiscal year was \$39,251,736.46. The deficit supplied out of the general Treasury was \$2,481,129.35, or 6½ per cent of the amount expended. The receipts were \$3,469,918.63 in excess of those of the previous year, and \$4,575,397.97 in excess of the estimate made two years ago, before the present period of business prosperity had fairly begun.

The whole number of letters mailed in this country in the last fiscal year exceeded one thousand millions.

The registry system is reported to be in excellent condition, having been remodeled during the past four years, with good results. The amount of registration fees collected during the last fiscal year was \$712,882.20, an increase over the fiscal year ending June 30, 1877, of \$345,443.40.

The entire number of letters and packages registered during the year was 8,338,919, of which only 2,061 were lost or destroyed in transit.

The operations of the money-order system are multiplying yearly under the impulse of immigration, of the rapid development of the newer States and Territories, and the consequent demand for additional means of intercommunication and exchange.

During the past year, 338 additional money-order offices have been established, making a total of 5,499 in operation at the date of this report.

During the year the domestic money-orders aggregated in value \$105,075,769.35.

A modification of the system is suggested, reducing the fees for money-orders not exceeding \$5 from ten cents to five cents, and making the maximum limit \$100 in place of \$50.

Legislation for the disposition of unclaimed money-orders in the possession of the Post-Office Department is recommended, in view of the fact that their total value now exceeds one million dollars.

The attention of Congress is again invited to the subject of establishing a system of savings depositories in connection with the Post-Office Department.

The statistics of mail transportation show that during the past year railroad routes have been increased in length 6,249 miles, and in cost \$1,114,382, while steamboat routes have been decreased in length 2,182 miles, and in cost \$134,054. The so-called star routes have been decreased in length 3,949 miles, and in cost \$364,144.

Nearly all of the more expensive routes have been superseded by railroad service. The cost of the star service must therefore rapidly decrease in the Western States and Territories.

The Postmaster-General, however, calls attention to the constantly increasing cost of the railway mail service as a serious difficulty in the way of making the department self-sustaining.

Our postal intercourse with foreign countries has kept pace with the growth of the domestic service. Within the past year several countries and colonies have declared their adhesion to the Postal Union. It now includes all those which have an organized postal service, except Bolivia, Costa Rica, New Zealand, and the British colonies in Australia.

As has been already stated, great reductions have recently been made in the expense of the star-route service. The investigations of the Department of Justice and the Post-Office Department have resulted in the presentation of indictments against persons formerly connected with that service, accusing them of offenses against the United States. I have enjoined upon the officials who are charged with the conduct of the cases on the part of the Government and upon the eminent counsel who, before my accession to the presidency, were called to their assistance, the duty of prosecuting with the utmost vigor of the law all persons who may be found chargeable with frauds upon the postal service.

The acting Attorney-General calls attention to the necessity of modifying the present system of the courts of the United States—a necessity due to the large increase of business, especially in the Supreme Court. Litigation in our Federal tribunals became greatly expanded after the close of the late war. So long as that expansion might be attributable to the abnormal condition in which the community found itself immediately after the return of peace, prudence required that no change be made in the constitution of our judicial tribunals.

But it has now become apparent that an immense increase of litigation has directly resulted from the wonderful growth and development of the country. There is no ground for belief that the business of the United States courts will ever be less in volume than at present. Indeed, that it is likely to be much greater is generally recognized by the bench and bar.

In view of the fact that Congress has already given much consideration to this subject, I make no suggestion as to detail, but express the hope that your deliberations may result in such legislation as will give early relief to our overburdened courts.

The Acting Attorney-General also calls attention to the disturbance of the public tranquillity during the past year in the Territory of Arizona. A band of armed desperadoes, known as "Cow-Boys," probably numbering from fifty to one hundred men, have been engaged for months in committing acts of lawlessness and brutality which the local authorities have been unable to repress. The depredations of these "Cow-Boys" have also extended into Mexico, which the marauders reach from the Arizona frontier. With every disposition to meet the exigencies of the case, I am embarrassed by lack of authority to deal with them effectually. The punishment of crimes committed within Arizona should ordinarily, of course, be left to the Territorial authorities. But it is worthy consideration whether acts which necessarily tend to embroil the United States with neighboring governments should not be declared crimes against the United States. Some of the incursions alluded to may perhaps be within the scope of the law (Revised Statutes, section 5286) forbidding "military expeditions or enterprises" against friendly states; but, in view of the speedy assembling of your body, I have preferred to await such legislation as in your wisdom the occasion may seem to demand.

It may, perhaps, be thought proper to provide that the setting on foot, within our own territory, of brigandage and armed marauding expeditions against friendly nations and their citizens, shall be punishable as an offense against the United States.

I will add that, in the event of a request from the Territorial government for protection by the United States against "domestic violence," this Government would be powerless to render assistance.

The act of 1795, chapter 36, passed at a time when Territorial governments received little attention from Congress, enforced this duty of the United States only as to the State governments. But the act of 1807, chapter 39, applied also to Territories. This law seems to have remained in force until the revision of the statutes, when the provision for the Territories was dropped. I am not advised whether this alteration was intentional or accidental, but, as it seems to

me that the Territories should be offered the protection which is accorded to the States by the Constitution, I suggest legislation to that end.

It seems to me, too, that whatever views may prevail as to the policy of recent legislation by which the army has ceased to be a part of the *posse comitatus*, an exception might well be made for permitting the military to assist the civil Territorial authorities in enforcing the laws of the United States. This use of the army would not seem to be within the alleged evil against which that legislation was aimed. From sparseness of population and other circumstances it is often quite impracticable to summon a civil posse in places where officers of justice require assistance, and where a military force is within easy reach.

The report of the Secretary of the Interior, with accompanying documents, presents an elaborate account of the business of that department. A summary of it would be too extended for this place. I ask your careful attention to the report itself.

Prominent among the matters which challenge the attention of Congress at its present session is the management of our Indian affairs. While this question has been a cause of trouble and embarrassment from the infancy of the Government, it is but recently that any effort has been made for its solution, at once serious, determined, consistent, and promising success.

It has been easier to resort to convenient make-shifts for tiding over temporary difficulties than to grapple with the great permanent problem, and, accordingly, the easier course has almost invariably been pursued.

It was natural, at a time when the national territory seemed almost illimitable and contained many millions of acres far outside the bounds of civilized settlements, that a policy should have been initiated which more than ought else has been the fruitful source of our Indian complications.

I refer, of course, to the policy of dealing with the various Indian tribes as separate nationalities, of relegating them by treaty stipulations to the occupancy of immense reservations in the West, and of encouraging them to live a savage life, undisturbed by any earnest and well-directed efforts to bring them under the influences of civilization.

The unsatisfactory results which have sprung from this policy are becoming apparent to all.

As the white settlements have crowded the borders of the reservations, the Indians, sometimes contentedly and sometimes against their will, have been transferred to other hunting-grounds, from which they have again been dislodged whenever their new-found homes have been desired by the adventurous settlers.

These removals, and the frontier collisions by which they have often been preceded, have led to frequent and disastrous conflicts between the races.

It is profitless to discuss here which of them has been chiefly responsible for the disturbances whose recital occupies so large a space upon the pages of our history.

We have to deal with the appalling fact that though thousands of lives have been sacrificed, and hundreds of millions of dollars expended in the attempt to solve the Indian problem, it has until within the past few years seemed scarcely nearer a solution than it was half a century ago. But the Government has of late been cautiously but steadily feeling its way to the adoption of a policy which has already produced gratifying results, and which, in my judgment, is likely, if Congress and the Executive accord in its support, to relieve us ere long from the difficulties which have hitherto beset us.

For the success of the efforts now making to introduce among the Indians the customs and pursuits of civilized life, and gradually to absorb them into the mass of our citizens, sharing their rights and holden to their responsibilities, there is imperative need for legislative action.

My suggestions in that regard will be chiefly such as have been already called to the attention of Congress, and have received, to some extent, its consideration:

1. I recommend the passage of an act making the laws of the various States and Territories applicable to the Indian reservations within their borders, and extending the laws of the State of Arkansas to the portion of the Indian Territory not occupied by the five civilized tribes.

The Indian should receive the protection of the law. He should be allowed to maintain in court his rights of person and property. He has repeatedly begged for this privilege. Its exercise would be very valuable to him in his progress toward civilization.

2. Of even greater importance is a measure which has been frequently recommended by my predecessors in office, and in furtherance of which several bills have been from time to time introduced in both Houses of Congress. The enactment of a general law permitting the allotment in severalty, to such Indians, at least, as desire it, of a reasonable quantity of land secured to them by patent, and for their own protection made inalienable for twenty or twenty-five years, is demanded for their present welfare and their permanent advancement.

In return for such considerate action on the part of the Government, there is reason to believe that the Indians in large numbers would be persuaded to sever their tribal relations and to engage at once in agricultural pursuits. Many of them realize the fact that their hunting days are over, and that it is now for their best interests to conform their manner of life to the new order of things. By no greater inducement than the assurance of permanent title to the soil can they be led to engage in the occupation of tilling it.

The well-attested reports of their increasing interest in husbandry justify the hope and belief that the enactment of such a statute as I recommend would be at once attended with gratifying results. A resort to the allotment system would have a direct and powerful influence in dissolving the tribal bond, which is so prominent a feature of savage life, and which tends so strongly to perpetuate it.

3. I advise a liberal appropriation for the support of Indian schools, because of my confident belief that such a course is consistent with the wisest economy.

Even among the most uncultivated Indian tribes there is reported to be a general and urgent desire on the part of the chiefs and older members for the education of their children. It is unfortunate, in view of this fact, that during the past year the means which have been at the command of the Interior Department for the purpose of Indian instruction have proved to be utterly inadequate. The success of the schools which are in operation at Hampton, Carlisle, and Forest Grove should not only encourage a more generous provision for the support of those institutions, but should prompt the establishment of others of a similar character.

They are doubtless much more potent for good than the day-schools upon the reservation, as the pupils are altogether separated from the surroundings of savage life, and brought into constant contact with civilization.

There are many other phases of this subject which are of great interest, but which can not be included within the becoming limits of this communication; they are discussed ably in the reports of the Secretary of the Interior and the Commissioner of Indian Affairs.

For many years the Executive, in his annual message to Congress, has urged the necessity of stringent legislation for the suppression of polygamy in the Territories, and especially in the Territory of Utah. The existing statute for the punishment of this odious crime, so revolting to the moral and religious sense

of Christendom, has been persistently and contemptuously violated ever since its enactment. Indeed, in spite of commendable efforts on the part of the authorities who represent the United States in that Territory, the law has in very rare instances been enforced, and, for a cause to which reference will presently be made, is practically a dead letter.

The fact that adherents of the Mormon church, which rests upon polygamy as its corner-stone, have recently been peopling in large numbers Idaho, Arizona, and other of our Western Territories, is well calculated to excite the liveliest interest and apprehension. It imposes upon Congress and the Executive the duty of arraying against this barbarous system all the power which, under the Constitution and the law, they can wield for its destruction.

Reference has been already made to the obstacles which the United States officers have encountered in their efforts to punish violations of law. Prominent among these obstacles is the difficulty of procuring legal evidence sufficient to warrant a conviction even in the case of the most notorious offenders.

Your attention is called to a recent opinion of the Supreme Court of the United States, explaining its judgment of reversal in the case of Miles, who had been convicted of bigamy in Utah. The court refers to the fact that the secrecy attending the celebration of marriages in that Territory makes the proof of polygamy very difficult; and the propriety is suggested of modifying the law of evidence which now makes a wife incompetent to testify against her husband.

This suggestion is approved. I recommend also the passage of an act providing that in the Territories of the United States the fact that a woman has been married to a person charged with bigamy shall not disqualify her as a witness upon his trial for that offense. I further recommend legislation by which any person solemnizing a marriage in any of the Territories shall be required, under stringent penalties for neglect or refusal, to file a certificate of such marriage in the Supreme Court of the Territory.

Doubtless Congress may devise other practicable measures for obviating the difficulties which have hitherto attended the efforts to suppress this iniquity. I assure you of my determined purpose to co-operate with you in any lawful and discreet measures which may be proposed to that end.

Although our system of government does not contemplate that the nation should provide or support a system for the education of our people, no measures, calculated to promote that general intelligence and virtue upon which the perpetuity of our institutions so greatly depends, have ever been regarded with indifference by Congress or the Executive.

A large portion of the public domain has been, from time to time, devoted to the promotion of education.

There is now a special reason why, by setting apart the proceeds of its sales of public lands, or by some other course, the Government should aid the work of education. Many who now exercise the right of suffrage are unable to read the ballot which they cast. Upon many who had just emerged from a condition of slavery were suddenly devolved the responsibilities of citizenship, in that portion of the country most impoverished by war. I have been pleased to learn from the report of the Commissioner of Education that there has lately been a commendable increase of interest and effort for their instruction; but all that can be done by local legislation and private generosity should be supplemented by such aid as can be constitutionally afforded by the national Government.

I would suggest that if any fund be dedicated to this purpose it may be wisely distributed in the different States according to the ratio of illiteracy, as by this means those localities which are most in need of such assistance will reap its special benefits.

The report of the Commissioner of Agriculture exhibits the results of the experiments in which that department has been engaged during the past year,

and makes important suggestions in reference to the agricultural development of the country.

The steady increase of our population and the consequent addition to the number of those engaging in the pursuit of husbandry are giving to this department a growing dignity and importance. The Commissioner's suggestions touching its capacity for greater usefulness deserve attention, as it more and more commends itself to the interests which it was created to promote.

It appears from the report of the Commissioner of Pensions that, since 1860, 789,063 original pension claims have been filed; 450,949 of these have been allowed and inscribed on the pension-roll; 72,539 have been rejected and abandoned, being 13+ per cent. of the whole number of claims settled.

There are now pending for settlement 265,575 original pension claims, 227,040 of which were filed prior to July 1, 1880. These, when allowed, will involve the payment of arrears from the date of discharge in case of an invalid, and from date of death or termination of a prior right in all other cases.

From all the data obtainable, it is estimated that fifteen per cent of the number of claims now pending will be rejected or abandoned. This would show the probable rejection of 34,040 cases, and the probable admission of about 193,000 claims, all of which involve the payment of arrears of pension.

With the present force employed, the number of adjudications remaining the same and no new business intervening, this number of claims (193,000) could be acted upon in a period of six years; and, taking January 1, 1884, as a near period from which to estimate in each case an average amount of arrears, it is found that every case allowed would require, for the first payment upon it, the sum of \$1,350. Multiplying this amount by the whole number of probable admissions gives \$250,000,000 as the sum required for first payments. This represents the sum which must be paid upon claims which were filed before July 1, 1880, and are now pending, and entitled to the benefits of the arrears act. From this amount (\$250,000,000) may be deducted from ten to fifteen millions, for cases where, the claimant dying, there is no person who, under the law, would be entitled to succeed to the pension, leaving \$235,000,000 as the probable amount to be paid.

In these estimates, no account has been taken of the 38,500 cases filed since June 30, 1880, and now pending, which must receive attention as current business, but which do not involve the payment of any arrears beyond the date of filing the claim. Of this number it is estimated that eighty-six per cent will be allowed.

As has been stated, with the present force of the Pension Bureau, 675 clerks, it is estimated that it will take six years to dispose of the claims now pending.

It is stated by the Commissioner of Pensions that, by an addition of 250 clerks (increasing the adjudicating force rather than the mechanical), double the amount of work could be accomplished, so that these cases could be acted upon within three years.

Aside from the considerations of justice which may be urged for a speedy settlement of the claims now on the files of the Pension Office, it is no less important on the score of economy, inasmuch as fully one third of the clerical force of the office is now wholly occupied in giving attention to correspondence with the thousands of claimants whose cases have been on the files for the past eighteen years. The fact that a sum so enormous must be expended by the Government to meet demands for arrears of pensions, is an admonition to Congress and the Executive to give cautious consideration to any similar project in the future. The great temptation to the presentation of fictitious claims, afforded by the fact that the average sum obtained upon each application is \$1,300, leads me to suggest the propriety of making some special appropriation for the prevention of fraud.

I advise appropriations for such internal improvements as the wisdom of Congress may deem to be of public importance. The necessity of improving the

navigation of the Mississippi River justifies a special allusion to that subject. I suggest the adoption of some measure for the removal of obstructions which now impede the navigation of that great channel of commerce.

In my letter accepting the nomination for the vice-presidency, I stated that, in my judgment, "no man should be the incumbent of an office, the duties of which he is, for any cause, unfit to perform; who is lacking in the ability, fidelity, or integrity which a proper administration of such office demands. This sentiment would doubtless meet with general acquiescence, but opinion has been widely divided upon the wisdom and practicability of the various reformatory schemes which have been suggested, and of certain proposed regulations governing appointments to public office.

"The efficiency of such regulations has been distrusted, mainly because they have seemed to exalt mere educational and abstract tests above general business capacity, and even special fitness for the particular work in hand. It seems to me that the rules which should be applied to the management of the public service may properly conform in the main to such as regulate the conduct of successful private business:

"Original appointments should be based upon ascertained fitness.

"The tenure of office should be stable.

"Positions of responsibility should, so far as practicable, be filled by the promotion of worthy and efficient officers.

"The investigation of all complaints and the punishment of all official misconduct should be prompt and thorough."

The views expressed in the foregoing letter are those which will govern my administration of the Executive office. They are doubtless shared by all intelligent and patriotic citizens, however divergent in their opinions as to the best methods of putting them into practical operation.

For example, the assertion that "original appointments should be based upon ascertained fitness" is not open to dispute.

But the question, how in practice such fitness can be most effectually ascertained, is one which has for years excited interest and discussion. The measure, which, with slight variations in its details, has lately been urged upon the attention of Congress and the Executive, has, as its principal feature, the scheme of competitive examination. Save for certain exceptions, which need not here be specified, this plan would allow admission to the service only in its lowest grade, and would accordingly demand that all vacancies in higher positions should be filled by promotion alone. In these particulars it is in conformity with the existing civil-service system of Great Britain. And, indeed, the success which has attended that system in the country of its birth is the strongest argument which has been urged for its adoption here.

The fact should not, however, be overlooked that there are certain features of the English system which have not generally been received with favor in this country, even among the foremost advocates of civil-service reform.

Among them are:

1. A tenure of office which is substantially a lifetime.

2. A limitation of the maximum age at which an applicant can enter the service, whereby all men in middle life, or older, are, with some exceptions, rigidly excluded.

3. A retiring allowance upon going out of office.

These three elements are as important factors of the problem as any of the others. To eliminate them from the English system would effect a most radical change in its theory and practice.

The avowed purpose of that system is to induce the educated young men of the country to devote their lives to public employment by an assurance that hav-

ing once entered upon it they need never leave it, and that after voluntary retirement they shall be the recipients of an annual pension. That this system as an entirety has proved very successful in Great Britain seems to be generally conceded even by those who once opposed its adoption.

To a statute which should incorporate all its essential features, I should feel bound to give my approval. But whether it would be for the best interests of the public to fix upon an expedient for immediate and extensive application, which embraces certain features of the English system, but excludes or ignores others of equal importance, may be seriously doubted, even by those who are impressed, as I am myself, with the grave importance of correcting the evils which inhere in the present methods of appointment.

If, for example, the English rule which shuts out persons above the age of twenty-five years from a large number of public employments is not to be made an essential part of our own system, it is questionable whether the attainment of the highest number of marks at a competitive examination should be the criterion by which all applications for appointment should be put to test. And under similar conditions, it may also be questioned whether admission to the service should be strictly limited to its lowest ranks.

There are very many characteristics which go to make a model civil servant. Prominent among them are probity, industry, good sense, good habits, good temper, patience, order, courtesy, tact, self-reliance, manly deference to superior officers, and manly consideration for inferiors. The absence of these traits is not supplied by wide knowledge of books or by promptitude in answering questions, or by any other quality likely to be brought to light by competitive examination.

To make success in such a contest, therefore, an indispensable condition of public employment, would very likely result in the practical exclusion of the older applicants, even though they might possess qualifications far superior to their younger and more brilliant competitors.

These suggestions must not be regarded as ovincing any spirit of opposition to the competitive plan, which has been to some extent successfully employed already, and which may hereafter vindicate the claim of its most earnest supporters. But it ought to be seriously considered whether the application of the same educational standard to persons of mature years and to young men fresh from school and college would not be likely to exalt mere intellectual proficiency above other qualities of equal or greater importance.

Another feature of the proposed system is the selection by promotion of all officers of the Government above the lowest grade, except such as would fairly be regarded as exponents of the policy of the Executive, and the principles of the dominant party.

To afford encouragement to faithful public servants by exciting in their minds the hope of promotion, if they are found to merit it, is much to be desired.

But would it be wise to adopt a rule so rigid as to permit no other mode of supplying the intermediate walks of the service?

There are many persons who fill subordinate positions with great credit, but lack those qualities which are requisite for higher posts of duty; and, besides, the modes of thought and action of one whose service in a governmental bureau has been long continued are often so cramped by routine procedure as almost to disqualify him from instituting changes required by the public interests. An infusion of new blood, from time to time, into the middle ranks of the service might be very beneficial in its results.

The subject under discussion is one of grave importance. The evils which are complained of can not be eradicated at once; the work must be gradual.

The present English system is a growth of years, and was not created by a single stroke of executive or legislative action.

Its beginnings are found in an order in council, promulgated in 1855, and it was after patient and cautious scrutiny of its workings that fifteen years later it took its present shape.

Five years after the issuance of the order in council, and at a time when resort had been had to competitive examinations as an experiment, much more extensively than has yet been the case in this country, a select committee of the House of Commons made a report to that House, which, declaring its approval of the competitive plan, deprecated, nevertheless, any precipitancy in its general adoption, as likely to endanger its ultimate success.

During this tentative period the results of the two methods of pass examination and competitive examination were closely watched and compared. It may be that, before we confine ourselves upon this important question within the stringent bounds of statutory enactment, we may profitably await the result of further inquiry and experiment.

The submission of a portion of the nominations to a central board of examiners selected solely for testing the qualifications of applicants may, perhaps, without resort to the competitive test, put an end to the mischiefs which attend the present system of appointment, and it may be feasible to vest in such a board a wide discretion to ascertain the characteristics and attainments of candidates in those particulars which I have already referred to as being no less important than mere intellectual attainment.

If Congress should deem it advisable at the present session to establish competitive tests for admission to the service, no doubts such as have been suggested shall deter me from giving the measure my earnest support.

And I urgently recommend, should there be a failure to pass any other act upon this subject, that an appropriation of \$25,000 per year may be made for the enforcement of section 1753 of the Revised Statutes.

With the aid thus afforded me, I shall strive to execute the provisions of that law according to its letter and spirit.

I am unwilling, in justice to the present civil servants of the Government, to dismiss this subject without declaring my dissent from the severe and almost indiscriminate censure with which they have been recently assailed. That they are as a class indolent, inefficient, and corrupt, is a statement which has been often made and widely credited. But when the extent, variety, delicacy, and importance of their duties are considered, the great majority of the employés of the Government are, in my judgment, deserving of high commendation.

The continuing decline of the merchant marine of the United States is greatly to be deplored. In view of the fact that we furnish so large a proportion of the freights of the commercial world, and that our shipments are steadily and rapidly increasing, it is cause of surprise that not only is our navigation interest diminishing, but it is less than when our exports and imports were not half so large as now, either in bulk or value. There must be some peculiar hindrance to the development of this interest, or the enterprise and energy of American mechanics and capitalists would have kept this country at least abreast of our rivals in the friendly contest for ocean supremacy. The substitution of iron for wood and of steam for sail have wrought great revolutions in the carrying trade of the world; but these changes could not have been adverse to America, if we had given to our navigation interests a portion of the aid and protection which have been so wisely bestowed upon our manufactures. I commend the whole subject to the wisdom of Congress, with the suggestion that no question of greater magnitude or farther-reaching importance can engage their attention.

In 1875 the Supreme Court of the United States declared unconstitutional the statutes of certain States which imposed upon ship-owners or consignees a tax

of one dollar and a half for each passenger arriving from a foreign country, or, in lieu thereof, required a bond to indemnify the State and local authorities against expense for the future relief or support of such passenger. Since this decision the expense attending the care and supervision of immigrants has fallen on the States at whose ports they have landed. As a large majority of such immigrants, immediately upon their arrival, proceed to the inland States and the Territories to seek permanent homes, it is manifestly unjust to impose upon the State whose shores they first reach the burden which it now bears. For this reason, and because of the national importance of the subject, I recommend legislation regarding the supervision and transitory care of immigrants at the ports of debarkation.

I regret to state that the people of Alaska have reason to complain that they are as yet unprovided with any form of government by which life or property can be protected. While the extent of its population does not justify the application of the costly machinery of Territorial administration, there is immediate necessity for constituting such a form of government as will promote the education of the people and secure the administration of justice.

The Senate, at its last session, passed a bill providing for the construction of a building for the Library of Congress, but it failed to become a law. The provision of suitable protection for this great collection of books, and for the copyright department connected with it, has become a subject of national importance, and should receive prompt attention.

The report of the Commissioners of the District of Columbia, herewith transmitted, will inform you fully of the condition of the affairs of the District.

They urge the vital importance of legislation for the reclamation and improvement of the marshes and for the establishment of the harbor-lines along the Potomac River front.

It is represented that in their present condition these marshes seriously affect the health of the residents of the adjacent parts of the city; and that they greatly mar the general aspect of the park in which stands the Washington Monument. This improvement would add to that park and to the park south of the Executive Mansion a large area of valuable land, and would transform what is now believed to be a dangerous nuisance into an attractive landscape extending to the river front.

They recommend the removal of the steam railway lines from the surface of the streets of the city, and the location of the necessary depots in such places as may be convenient for the public accommodation; and they call attention to the deficiency of the water-supply, which seriously affects the material prosperity of the city and the health and comfort of its inhabitants.

I commend these subjects to your favorable consideration.

The importance of timely legislation with respect to the ascertainment and declaration of the vote for presidential electors was sharply called to the attention of the people more than four years ago.

It is to be hoped that some well-defined measure may be devised before another national election, which will render unnecessary a resort to any expedient of a temporary character, for the determination of questions upon contested returns.

Questions which concern the very existence of the government and the liberties of the people were suggested by the prolonged illness of the late President, and his consequent incapacity to perform the functions of his office.

It is provided by the second article of the Constitution, in the fifth clause of its first section, that "in case of the removal of the President from office, or of his death, resignation, or inability to discharge the powers and duties of said office, the same shall devolve on the Vice-President."

What is the intentment of the Constitution in its

specification of "inability to discharge the powers and duties of said office," as one of the contingencies which calls the Vice-President to the exercise of presidential functions?

Is the inability limited in its nature to long-continued intellectual incapacity, or has it a broader import?

What must be its extent and duration?

How must its existence be established?

Has the President, whose inability is the subject of inquiry, any voice in determining whether or not it exists, or is the decision of that momentous and delicate question confided to the Vice-President, or is it contemplated by the Constitution that Congress should provide by law precisely what should constitute inability, and how and by what tribunal or authority it should be ascertained?

If the inability proves to be temporary in its nature, and during its continuance the Vice-President lawfully

exercises the functions of the Executive, by what tenure does he hold his office?

Does he continue as President for the remainder of the four years' term?

Or would the elected President, if his inability should cease in the interval, be empowered to resume his office?

And if having such lawful authority he should exercise it, would the Vice-President be thereupon empowered to resume his powers and duties as such?

I can not doubt that these important questions will receive your early and thoughtful consideration.

Deeply impressed with the gravity of the responsibilities which have so unexpectedly devolved upon me, it will be my constant purpose to co-operate with you in such measures as will promote the glory of the country and the prosperity of its people.

CHESTER A. ARTHUR.

WASHINGTON, December 6, 1881.

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RADIOPHONY. The experiments of Graham Bell and Tainter have revealed an unexpected molecular action induced by light upon all kinds of substances. When a rapidly alternating intermittent beam of concentrated sunlight is cast upon a substance placed in a receiver, disposed so as to expose equal surfaces to the action of the light, a musical sound is produced which is audible through a common hearing-tube. The intensity of the musical tone varies greatly with different substances. The molecular vibrations which give rise to the sonorous effects are due to those rays only which are absorbed by the body. This is proved by the experiment illustrated in the diagram (Fig. 1). A beam of sunlight, reflected by the heliostat (A), is brought to a focus by the achromatic lens (B) so as to form an image of the sun on the slit (C), the beam being interrupted 500 to 600 times a second by the revolving disk with radial openings (F). The beam then, after traversing the achromatic lens (D), is dispersed by the bisulphide-of-carbon prism (E), which forms a spectrum of great intensity, showing all the principal absorption-lines of the solar spectrum. On exploring the spectrum with the receiver (G), containing a narrow slit for the entrance of a single ray, and holding the substance to be examined, it was discovered that in the visible region of the spectrum those places only in which the absorption-lines of the substance are found were capable of exciting the sonorous phenomena, and that the maximum sound was produced in the part of the spectrum where the absorption-lines are thickest. Mercadier had before obtained audible effects from substances examined in an intermittent beam of electric light, and had established the fact that the sonorous vibration is excited by those rays alone which cast absorption-bands. Sounds are given forth by many substances in the invisible regions of the spectrum. A number of the substances experimented upon by Tainter emitted the loudest sounds at the ultra-red end

of the spectrum. In the ultra-violet no clearly established results were obtained.

The discovery of these unsuspected phenomena has suggested to Bell and Tainter an important application of the principle established in physical science. By noting the bands of sound and silence in the ultra-red region, a map of the invisible portion of the spectrum for different substances can be constructed. Such a spectrophone, as Professor Bell names the instrument, is shown in Fig. 2. Lamp-black is a substance which gives out clear sounds in all parts of the solar spectrum, from the violet to a point far out in the ultra-red. The sound increases continuously, and attains its maximum in the ultra-red, and then decreases and dies out just beyond the point of its maximum intensity. Peroxide of nitrogen gas is a substance which produces sound in all parts of the spectrum, except in the ultra-red; the maximum is in the blue, and a sound in the ultra-violet region even is reported, though doubtfully. The receiver of the spectrophone is coated with lamp-black, and the cavity filled with peroxide of nitrogen. The combination gives clear and even sounds in all parts of the spectrum. An intermittent beam of light is passed through a substance whose absorption spectrum is to be investigated. The absorption-bands of this substance are then indicated by bands of silence. For determining the absorption-lines of bodies in the ultra-red region, lamp-black alone is a sufficient medium. The spectrophone, therefore, promises to be an invaluable adjunct to the spectroscope.

Professor Tyndall, among others, suspected that the musical sounds given out by gases under the influence of the intermittent beam were due to the rapid successive dilatations of the gases caused by the radiant heat, and not the light. His conjecture was confirmed when he subjected bisulphide of carbon and sulphurous ether successively to the action of the intermittent beam, and found that the former, which is not a heat-absorbent, emitted no

sound, while the sulphurous ether yielded a ringing musical note. Other vapors were found to produce musical tones in proportion to their ability to absorb radiant heat. The more diathermanous gases also yield faint sounds, while

the highly absorbent, like olefiant gas, give out loud tones. It is inferred that the same effects in solid bodies also are due to rapidly occurring changes in temperature. Mercadier has obtained the tones from the red and the heat rays,

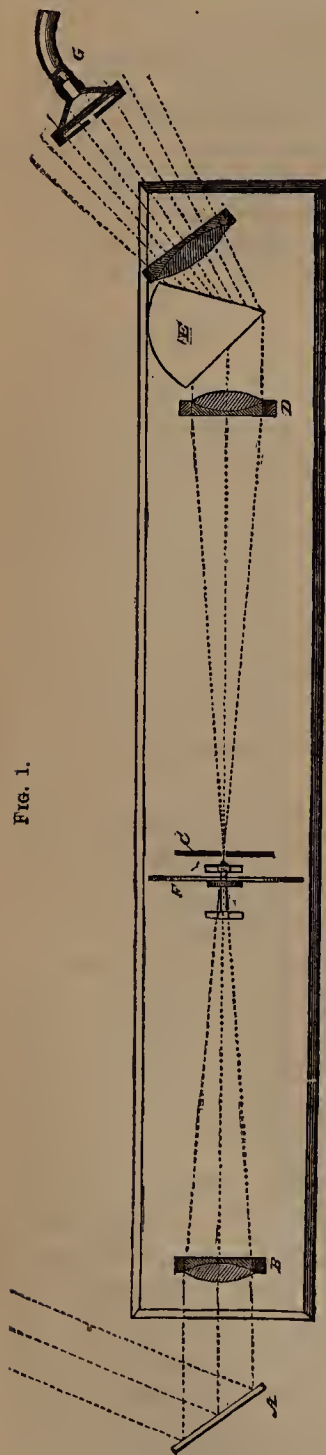
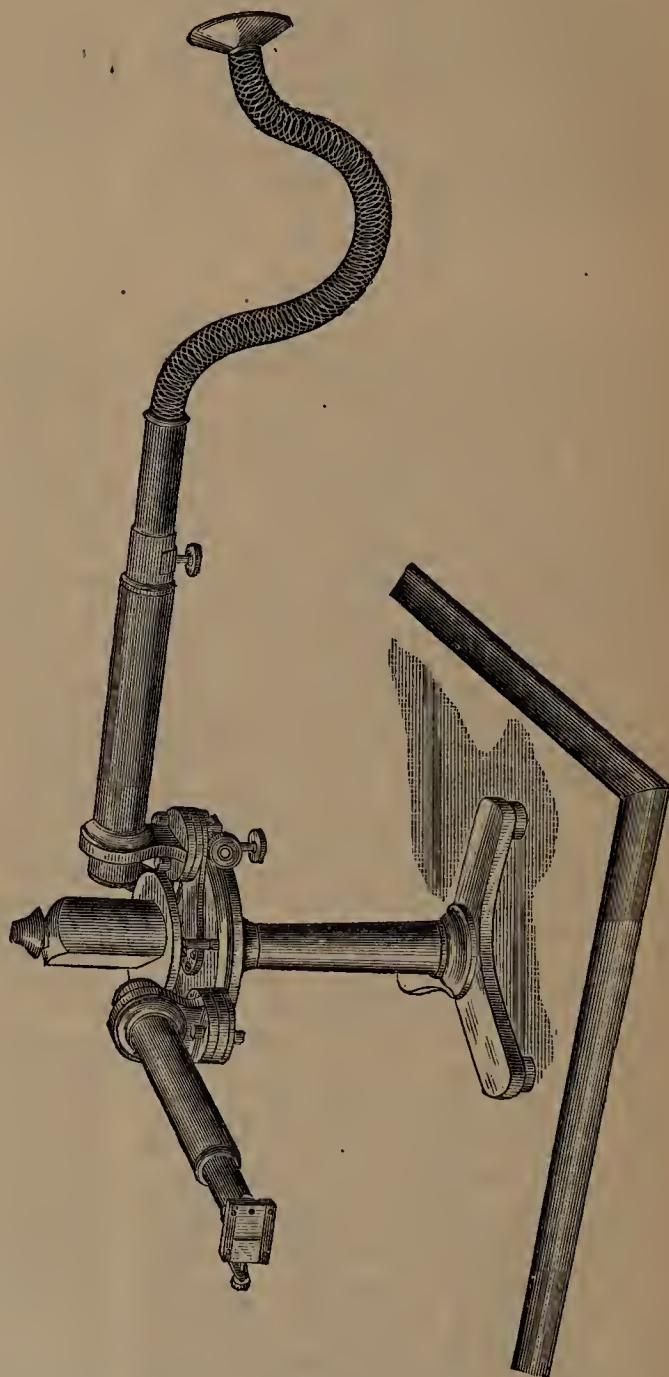


Fig. 1.

Fig. 2.



and from the heat-rays alone. Tyndall produced sounds even with a piece of iron not quite red-hot, placed behind the interrupting disk.

RAINS, GABRIEL J., born in Craven County, North Carolina; died at Aiken, South Caro-

lina, August 6, 1881, aged seventy-seven. General Rains entered the Military Academy at West Point in 1823, and graduated in 1827, one year before Jefferson Davis, with whom he was a cadet. He was assigned to the First

Infantry, U. S. A., as brevet second-lieutenant, and shortly afterward he was promoted to the Seventh Infantry and sent on frontier duty. General Rains was engaged in the Seminole Indian War, and was severely wounded in the right lung. He distinguished himself in the Mexican War, soon after which he was promoted to full major in the Fourth United States Infantry, having been made brevet major for gallantry in action during the Florida War. In the year 1854 his regiment was ordered to Oregon River on the Pacific coast. He distinguished himself in the various Indian wars in that section, and was considered one of the most successful Indian fighters on that coast. In 1860 he was promoted to lieutenant-colonel and ordered to New Mexico; but the civil war determined him to cast his fortunes with his native section, and, resigning his commission in the Federal army, he went South and was appointed brigadier-general in the Confederate army. Just after the battle of Seven Pines, in which he was wounded, he was highly complimented by General D. H. Hill for a rapid and successful flank movement upon the enemy's right, in which his brigade relieved General Rhodes, who was hard pressed, thus turning the tide of battle in favor of the Confederate army. After this battle he was placed on duty in charge of the conscript and torpedo bureaus at Richmond. Rich in the inventive faculties, General Rains organized and matured the torpedo service, and caused the harbors of Charleston, Savannah, Wilmington, Mobile, and Richmond to be effectually protected from outside attack. He also invented a sub-terra shell which was highly esteemed by the Confederate War Department for defensive purposes, and was used on several occasions to protect the lines around Richmond, the glacis of Battery Wagner, and other places. The death of General Rains was occasioned by the breaking out of his war wounds.

RHODE ISLAND. Of the acts passed by the Rhode Island Legislature at the January session of 1881, there was one which amended the statute relating to "the constitution and organization of the General Assembly." It provides that hereafter "the House of Representatives shall consist of seventy-two members." These are distributed among the several towns in proportion to their respective populations. The ratio of representation is fixed at "one Representative for every three thousand four hundred and fifty inhabitants of each town, and one additional Representative for every fraction of the inhabitants exceeding one half of the ratio aforesaid; but each town shall be entitled to at least one Representative, and no town shall be entitled to more than twelve Representatives." The highest number is assigned to the city of Providence.

The election for State officers is held in the first week in April in each year. The Democrats convened at Providence on March 24th, and nominated for Governor, Horace A. Kim-

ball; for Lieutenant-Governor, Thomas W. Segur; for Secretary of State, John G. Perry; for Attorney-General, Francis L. O'Reilly; for General Treasurer, Arnold L. Burdick. The party platform was adopted.

The Republican Convention was held in Providence on March 24th, when the incumbents of the various State offices—Alfred H. Littlefield, Governor; Henry H. Fay, Lieutenant-Governor; Joshua M. Addeman, Secretary of State; Willard Sayles, Attorney-General; and Samuel L. Clark, General Treasurer—were severally and unanimously nominated to continue in their respective offices during next year. No platform was adopted.

The Liquor Prohibitionists assembled at Providence on March 31st, the attendance of delegates being much lighter than was anticipated. As to making nominations there was great disagreement, and a number of speeches were made, severally advocating the nomination of a ticket in full, in part, and of no ticket at all. In the midst of these conflicting opinions, the chairman of the State Central Committee, who had called the meeting to order, and on its first organization had been elected temporary president, forcibly dissuaded the nomination of a ticket as hurtful to the interests of the party. Among other reasons, he reminded his hearers of the fact that in the call previously issued for the holding of this meeting "the State Central Committee had not called the convention to nominate candidates, but to consider the question of making such nominations"; he pointed at the small number of delegates, and concluded with expressing his conviction that "this convention ought not to make a nomination now." The same view was entertained and urged on the assembly by its permanent president, who, besides other things, said: "Only seventeen towns are represented in the convention, and, of the sixty-nine delegates, twenty-six are from Providence. . . . The largest and strongest temperance towns are unrepresented." The sentiment of nominating a ticket prevailed, however, as, on the question being put, the convention voted "to proceed to make nominations," and they were made as follows: for Governor, Albert C. Howard; for Lieutenant-Governor, A. B. Chadsey; for Secretary of State, for Attorney-General, and for General Treasurer, the convention renominated the incumbents of those offices. The renomination of Mr. Sayles for Attorney-General was objected to by some among the delegates, who represented that officer as bent on defeating rather than promoting the Prohibition cause, and referred to certain cases of violation of the prohibition law pending before the court and then discontinued, the discontinuance being charged to Mr. Sayles. The objection was removed by the chairman's remark that Mr. Sayles could not be made responsible for the discontinuance of those cases, by reason that at the time when it occurred he was absent from the State. His renomination was then accepted by the con-

vention, some few votes opposing it. Before adjourning, the convention instructed its secretaries "to notify the candidates of their nominations, and request their acceptance." As Prohibitionists' candidate for Governor, Frank G. Allen, of Providence, was afterward substituted for Albert C. Howard, above-named.

The Greenback-Labor party held its State Convention at Providence on March 31st, and the following ticket was nominated: For Governor, Charles P. Adams; for Lieutenant-Governor, James Jefferson, colored; for Secretary of State, Henry Appleton; for Attorney-General, Thomas W. Robinson; for General Treasurer, David G. Moore. Each of the above-named candidates, except Mr. Robinson for Attorney-General, on being put in nomination personally declined, notwithstanding which each of them was, on motion, "declared the unanimous choice of the convention." Upon this all of them respectively accepted, saying they "bowed to the will of the convention in submission."

The following resolutions were adopted by the convention:

Resolved, That the Greenback-Labor party of Rhode Island reaffirms, with a confidence and devotion only made clearer and deeper by time and further reflection, the characteristic principles of the party—the government alone to issue currency and control its volume; the substitution of non-interest-bearing greenbacks for double interest-bearing national bank-notes; the land for the people instead of for corporants and corporations; that the national debt be paid instead of refunded; universal adult suffrage and universal education.

Resolved, That the State should not contract the labor of prison-convicts, but employ it upon materials purchased by itself, and sell the product in the open market, at the market price.

Resolved, That the public school *does* make those who have been subjected to its influence discontented with a life of toil for a mere animal subsistence; that we are glad it does, and find in that fact not only evidence that the public school is not a failure, but proof that those who instituted it "builded better than they knew"; that it is not the public school which is in fault, but the concept of social life of those who believe that a few must be lords and the multitude be slaves; that justice to each means more and better for all.

Resolved, That we find encouragement and hope in these facts: That our party holds the balance of power in the nation; the dominance of our political brethren in Maine; the certainty that the old parties are honey-combed by our principles; the aggressive spirit of the national banks—greed overleaping itself; the testimony of events in many lands that the world moves.

Resolved, That we commend our measures and our candidates to all voters who would rather win the right to-morrow than win the election to-day.

The election was held on April 7th, and resulted in favor of the Republican candidates. The total vote polled for Governor was 6,608 less than at the same election in 1880; but the votes cast for Governor Littlefield numbered 625 more than in the previous year. The whole number of votes for Governor was 16,201, and 8,101 were necessary for a choice—10,849 votes were cast for Alfred H. Little-

field, and 4,756 for Horace A. Kimball; 253 votes were given for Frank G. Allen, and 285 votes for Charles P. Adams. The votes cast for Lieutenant-Governor and the other candidates show about the same proportions as to numbers and majorities.

The Democratic and Prohibition votes for Governor in 1881, compared with their votes in 1880, show a decrease of 2,684 and 4,894, respectively.

Members of the Legislature elected were, in the Senate—Republicans twenty-nine, Democrats five, and two seats vacant; in the House of Representatives—Republicans sixty-three, Democrats seven, and two members to be chosen. Ten new Senators were elected last April for the Upper House, and twenty-four new Representatives for the Lower one.

The May session at Newport was closed on its fourth day, June 3d, both Houses having then adopted a joint resolution: "That the Legislature adjourns to-day, to meet in Providence on the last Tuesday in January, 1882, at 11 o'clock A. M." To fill the vacant seat of an Associate Justice on the State Supreme Bench, Pardon E. Tillinghast was declared elected on the eighth ballot by a vote of 53 to 40.

An act was also passed, providing that twenty years' service entitles a justice to retire from the Supreme Court with the continuance of his salary, as a pension, whatever his age; and that ten years' service entitles him likewise to retire with the same pension on his becoming seventy years old.

The following resolution with its preamble was also passed, inviting to Rhode Island the delegates of the French Republic who might be deputed to represent France at the celebration of the Yorktown Centennial:

Whereas, During the Revolutionary War in the year A. D. 1778, the British controlled the entrance of Narragansett Bay, and greatly distressed and oppressed the inhabitants of the adjoining territory, and

Whereas, In the month of July of that year a French fleet arrived in the said bay, under the command of Admiral d'Estaing, and occasioned the destruction of many of the vessels of the British fleet, to the great satisfaction and relief of the inhabitants of the State; and

Whereas, In the summer of 1780, another French fleet, bringing a large land-force, arrived in the waters of the said bay, and to the great relief of the inhabitants remained within this State for a considerable time, and afforded protection to the lives and property of the inhabitants of the State; and

Whereas, The Government of the United States has invited the Government of the Republic of France to participate in the centennial celebration of the surrender of the British forces in America, to take place at Yorktown in October next, and the Republic of France has signified its intention to be present at and to participate in the said celebration: therefore, as a token of gratitude, and as showing the appreciation of the people of Rhode Island of the services rendered this State by the fleets and armies of France, it is

Resolved, That his Excellency the Governor be and he hereby is directed and authorized to invite the representatives of France who may visit the

United States to participate in the celebration in October next, to visit the State of Rhode Island at such time during their sojourn in the United States as may be convenient to them, and while the said representatives are within the State to remain the guests thereof; and that his Excellency is hereby requested and directed to appoint a committee of such citizens of this State as he may deem proper to assist him in entertaining the guests of the State while here in such a manner as the committee may believe will be most acceptable to their guests, and that his Excellency the Governor be and he hereby is authorized to draw his orders upon the General Treasurer for the expense incident to carrying this resolution into effect.

The finances of the State, during the year ended December 31, 1881, show the following results:

Receipts from all sources.....	\$919,792 44
Balance in Treasury, January 1, 1881.....	85,683 23
Total	\$1,005,475 67

The aggregate expenditures for all purposes during the same year amounted to \$794,685.77—ordinary, \$432,984.09; extraordinary, \$361,701.68, leaving as cash balance in Treasury, January 1, 1882, \$210,789.90.

The sum of \$129,011.18 was paid on the principal of the State debt, which is at present \$2,521,500; made up of outstanding bonds maturing and payable as follows: In 1881, \$500; in 1882, \$952,000; in 1883, \$200,000; in 1893, \$691,000; in 1894, \$738,000.

Toward paying the State debt, the amount of securities held by the sinking fund on January 1, 1882, was \$998,080.50, leaving the amount of actual debt at that date, \$1,923,419.50.

The aggregate deposits in the thirty-nine savings-banks of Rhode Island, on the 21st of November, 1881, amounted to \$46,771,723.43, an increase of \$2,016,097.84 over the preceding year; and the number of depositors was 102,991, an increase of 5,300 within the year. Of this increase 4,107 are depositors of sums not exceeding \$500. The number of depositors has never been as large as at present. The amount of deposits in the Rhode Island Hospital Trust Company, on participation account, from 1,283 depositors, was at that date \$3,647,065.10, which shows the whole number of depositors in the State to be 104,274, and the whole amount of their deposits \$50,418,688.53.

The condition of the educational interest of Rhode Island appears from the following table of statistics, showing the number of her school-age population, their attendance in the public schools, and the cost of their instruction during the year 1881:

SCHOOL CENSUS.

Number of children from five to fifteen years enumerated.....	53,077
Number of children reported as attending public schools.....	33,930
Number of children reported as attending Catholic schools.....	4,728
Number of children reported as attending select schools.....	1,994
Number of children reported not attending any school	12,730

RECEIPTS AND EXPENDITURES.

Total receipts	\$582,965 19
Current expenditures.....	499,102 71
Permanent expenditures, buildings, apparatus, etc.....	50,833 97

In the charitable, correctional, and penal institutions on the State Farm at Cranston, under the management of the Board of State Charities and Corrections, the average numbers of their respective inmates given in 1880 have not varied materially in 1881, except in the Asylum for the Insane, where the number of patients has increased from 245 on January 1, 1881, to 281 on January 1, 1882. This increase has been exclusively in the class of patients supported by the State. The total number of persons of the several classes in the public institutions, including the Reform School in Providence, on January 1, 1882, was 1,077; and the aggregate amount of money drawn from the State Treasury for the support of all these persons during the year was \$122,324.45. The amount collected from some of the said institutions, and paid into the State Treasury by the Board of Charities and Corrections during the year, was \$64,296.39, leaving \$58,028.06 as the sum actually paid by the State for their support.

The whole number of children in the Reform School, on June 1, 1881, was 148—boys 131, girls 17; on January 16, 1882, it was 199—boys 178, girls 21; an increase of 51 in seven months and a half.

The annual returns of the sixteen railroads operating in the State show a decided increase in the amount of freight as well as passengers during the year 1881; and a material increase in their gross receipts, as compared with the previous year's. But the amount of their net earnings was actually less than in 1880, owing to an exceeding disproportional increase in the expenses.

Toward increasing the supply of fish-food in the State, half a million young shad have been placed in the waters of Rhode Island during the year 1881, and one thousand German carp were also received and distributed among applicants who have proper facilities for the culture of that species.

The work of revising the public laws of the State, which has been attended to for two years, is now finished, published in one volume entitled "The Public Statutes," and widely distributed. The book contains all the laws of the State down to the close of 1881, and will go into practical operation on February 1, 1882.

The death of General Burnside having caused a vacancy in the Rhode Island representation in the Federal Senate, Governor Littlefield convened the General Assembly in Providence, on September 26th, for the purpose of electing a person to fill the vacancy. After a recess, the two Houses met in convention, on October 5th, when Nelson W. Aldrich received eighty-nine of ninety-six votes, and was elected.

The representatives of the Republic of France

who attended the celebration at Yorktown accepted the invitation.

The population of the several counties in 1880, as compared with 1870, was as follows:

COUNTIES.	1880.	1870.
Bristol.....	11,394	9,421
Kent.....	20,583	18,595
Newport.....	24,180	20,050
Providence.....	197,874	149,190
Washington.....	22,495	20,097
The State.....	276,531	217,353

ROMAN CATHOLIC CHURCH. The situation of the Pope at Rome continued unchanged during the year 1881, Leo XIII remaining in the Vatican, without recognizing the actual position of affairs except as one imposed by force, while, on the other hand, there was a manifest disposition to sweep away what little was nominally secured by the "Law of Guarantees" and to force the Pope from Rome. The feeble action of the Italian Government before the close of the year tended to make the position of the Pope an international question. Pilgrimages to Rome continued during the year 1881, with remittances of Peter's Pence from all parts of the world for the maintenance of the Sovereign Pontiff, and the necessary organization for the government of the Church. The pilgrims were from time to time received by the Pope (January 6th, February 13th, April 24th, May 8th-26th, July 5th, October 16th, etc.). The great Catholic missions throughout the world were crippled by the act of the Giunta Liquidatrice, in seizing the property held by the Propaganda. Recourse was had to the courts, on the ground that this property, held in trust for missions out of Italy and arising from funds contributed from all parts of the world, did not fall under the act of the Italian Government; but the Court of Appeals and the Court of Cassation decided against the claim, and the property was sold by auction January 15, 1881, the future of Catholic missions being thus made to depend on the interest the Italian Government might be able or willing to pay. On the 12th of March, Leo XIII issued Apostolic Letters proclaiming a general jubilee, reciting the position of the Church and its head in Italy, "a mere shadow of royal power being left him as though in mockery," while "he was truly more in the power of his enemies than of his own." Vice and profligacy increased on all sides, religious teaching was excluded from the schools, and the Church was prevented from instituting them, and in other ways hindered from carrying on its work. The general shaking off of authority threatened danger to all government, and all were urged to invoke the Divine assistance to avert the dangers that menaced Christendom.

In an address on the 8th of June he expatiated on the importance of a Christian basis for education. His Encyclical of the 29th of June,

called forth by the assassination of the Czar, was a warning of the danger to all in power from those increasing in numbers and audacity, in whom all respect for constituted authority was lost. Before it reached America, another example was given in the assassination of President Garfield. The Encyclical was a profound and learned exposition of the Catholic theory of civil government. On the 12th of July the body of Pius IX was removed from its temporary resting place to the tomb prepared for it in the Basilica of *S. Lorenzo extra muros*. On the way the cortege was attacked by a mob, and, from the insufficiency and inefficiency of the police arrangements, many were injured, and the procession with difficulty reached the church. On the 14th Pope Leo XIII, in the presence of the ministers accredited to the Holy See, made a protest against the outrage, and, in an allocution on August 4th, resumed the whole event. A circular note was also addressed to the various courts. Taken in connection with the general spirit of anarchy, this event was widely felt to be the strongest evidence yet that the Pope was neither free nor safe in Rome, and tended to bring his position before the great powers as an international question. An agitation was begun in Rome, and a public meeting held August 7th to demand the abolition of the "Law of the Guarantees"; though the meeting was ultimately broken up by the authorities, the agitation continued. An official declaration that the article as part of the Statute was unalterable, did not check the movement or convince either friends or foes that it rested on any solid basis. The Falk laws in Prussia had been carried out till only three Catholic Sees had bishops, the rest being vacant by death or exile—Dr. Foerster, Prince Bishop of Breslau, dying in exile during the year—and thousands of parishes were destitute of priests and of public worship. The first step to relieve the Catholics from this state of destitution was the assent of Government to the appointment of Dr. Korum to the Sec of Treves, where one hundred and fifty-three parishes were vacant. This was followed by the mission of Dr. Von Schlözer to Rome, and the ultimate restoration of diplomatic relations between Prussia and the Holy See, although definite terms were not arrived at before the close of the year.

On the 8th of December Pope Leo XIII canonized St. Benedict Joseph Labre, a French pilgrim, who died at Rome; St. John Baptist Rossi, St. Leonard de Brindisi, and St. Clare of Montefalco, an Augustinian nun, who died August 17, 1308, and had been constantly venerated for her sanctity. During the year several other causes were acted upon, and the canonization of Christopher Columbus was solicited by four hundred and sixty-three bishops.

The ancient order of the Knights of St. John of Jerusalem, or Knights of Malta, once a sovereign body, had not for years had a grand master. Leo XIII raised to this rank Baron

Ceschi di Santa Croce, and the Emperor of Austria conferred on him the dignity of Prince.

In the East the Armenian monks of Bertsiabo and Bishop Placidus Kasangian, submitted to the Pope Leo XIII through Cardinal Hassoun, established an Armenian seminary at Rome for the education of students in philosophy, theology, and canon law.

No new creation of cardinals took place in 1881, and the Sacred College lost several: Cardinal Regnier, Archbishop of Cambrai, died at the age of eighty-six, January 3d; Cardinal Kutschker, Archbishop of Vienna, aged seventy, January 27th; Cardinal Garcia Gil, Archbishop of Saragossa, April 28th; Cardinal Moretti, Archbishop of Ravenna, October 6th; Cardinal Caterini, aged eighty-six, October 28th; Cardinal Gianelli, aged seventy-four, November 5th; Cardinal Borromeo, aged fifty-nine, December 2d.

In France, the cabinet formed by Gambetta was decidedly hostile to the Catholic Church, the attempt to compel priests to serve as private soldiers in the army eliciting a spirited letter to the deputies from Cardinal Guibert, Archbishop of Paris, while Mr. Bert, to whom the portfolio of public worship was confided, manifested his intention to employ all means at his command to cripple and thwart the action of the Church; but the ministry proved short-lived. The Catholics of Belgium had divided on some questions into jarring and inharmonious parties, so that Pope Leo XIII, in July, addressed a letter to the Episcopate, deploring their unseemly controversies, and urging them to endure some evils patiently rather than make their condition worse by unavailing resistance.

In the province of Bosnia, which had been placed under the Austrian Protectorate, the Pope restored the ancient hierarchy, establishing by Letters Apostolic (July 5th) an Archiepiscopal See at Serajevo, with suffragans at Banialuco, Mostar, and Trebigne.

In the British Dominions questions had arisen in England between the bishops and the regular clergy. These were finally determined by the Pope in the Pontifical Constitution, *Romanos Pontifices* (May 8th). Under this, regulars can not act as parish priests in canonically erected parishes without the express consent of the Holy See. They may attend missions, but these may be divided by the Bishop of the Diocese at his option. Regulars can not establish a house in a diocese, or alter the character of one, without the consent of the Bishop. Regulars having cure of souls are subject to the synodal regulations, must attend synods, and make reports of their missions, like seculars.

The Irish episcopate and clergy, to some extent, favored the Land League, but they all condemned the "no-rent" policy, and agrarian violence. The episcopate at Maynooth (September 27-'8) urged their flocks to avail themselves of the provisions of the Land Act, and to avoid all secret agencies and all violence.

They reiterated their protest against the Queen's colleges, and called for training-schools for Catholic teachers. The Pope had, early in the year (January 3d), urged the bishops to labor for peace.

At the close of the year (November 7th) the Irish Church lost its Dean, the Most Reverend John McHale, born March 6, 1791, consecrated Bishop June 5, 1825, and for many years prominent as a leader of thought in all Irish movements.

The Foreign Missions of the Catholic Church in Asia and Oceania, and especially in Africa, were extended, and several missionaries lost their lives, notably three who were put to death near Lake Tanganyika.

The Catholic Church in the United States celebrated one Provincial Council, that of Oregon, at Portland, in October; and diocesan synods in the Diocese of Vincennes. New sees were erected at Davenport, Iowa, and Trenton, New Jersey. Legislation affecting members of the Church was introduced in some States. A law to secure freedom of worship in penal and eleemosynary institutions passed the New York Legislature, but was vetoed by Governor Cornell; and in April an act was introduced into the Michigan Legislature to secularize Catholic Church property. Litigation in Ohio and Pennsylvania tended to settle the exact position before the law of Catholic archbishops and bishops. In Ohio the bankruptcy of Archbishop Purcell raised questions not yet decided, as to what property, if any, held by churches or institutions was liable for debts incurred by a bishop individually. In Pennsylvania and Michigan cases arose as to the liability of a bishop to a priest for his salary. The Court of Common Pleas of Allegheny County, Pennsylvania, in *Sheehan vs. Tuigg*, held that a bishop was personally liable for salary to a priest who had been received into a diocese by his predecessor, and had left it before his appointment, and had never done any service in the diocese during his administration. The Supreme Court of Michigan, in *Rose vs. Vertin*, decided, June 21, 1881, that a bishop is not liable to a priest for his salary when the congregation fail to pay it. The cases of *Stack vs. O'Hara*, in Pennsylvania, were finally decided, after several clashing judgments. An inferior court held that a bishop did wrong in removing a priest, but refused to enjoin him or to compel him to reinstate the priest; it condemned the bishop in costs, and this point was sustained on appeal. In a suit by the priest for damages, being his loss of salary, another judge held the bishop not liable, considering that he did no wrong in removing the priest, and the Supreme Court, on the whole subject coming before it on appeal in October, 1881, sustained this view, and terminated a litigation commenced in 1872. A school case arose in Philadelphia which excited general interest. Miss Scull, a teacher in the Hunter Girls' Grammar School, was charged with mis-

representing and stigmatizing the doctrines and practices of the Catholic Church in her teaching in a way to insult the feelings of her Catholic pupils. A long examination followed, and the Board of Public Education of the First School District held the teacher justifiable in her course. This led to a general withdrawal of Catholic pupils from the public schools.

The Most Reverend J. M. Henni, Archbishop of Milwaukee, eminent for his care in training candidates for the priesthood, and in enhancing the efficiency of the teaching orders for school work, died September 7th.

Lady Blanche Murphy, daughter of the Earl of Gainsborough, and a Catholic writer of eminence, died at North Conway, Vermont, March 22d.

During this year the Sisters of Mercy in the United States, as elsewhere, celebrated, on the 12th of December, the fiftieth anniversary of the establishment of their community, which has spread over all English-speaking countries.

ROUMANIA. When Prince Carl of Hohenzollern-Sigmaringen entered Roumania secretly in 1866 and assumed the sovereignty which was offered to him almost entirely on his own risk and responsibility, and that of the nation which had elected him, he found the treasury empty, the equipment of the army as well as of all the other branches of the public service almost worthless, the cholera raging in the land, the expelled Prince Cusa actively gathering a party for his re-instatement, and a war with Turkey imminent. The entire military force of the principality, including the troops of the line, the frontier guard, and the gendarmes, numbered 40,000 men, and the artillery had only 100 guns, not all of them mounted. The first act of the young sovereign was to procure with some difficulty arms for the army and bring into the country a number of Prussian officers. In 1868 flogging was abolished in the army, and the same year the army was reorganized. The organization was

completed by later laws, in 1872, 1874, and 1880. The Roumanian army is composed, after these reforms, of the standing army with its reserve, the territorial army and reserve, the militia, the civil guard for the towns, and the Landsturm for the country. The age of military service lasts from the twenty-first to the forty-sixth year. Roumania could in 1881 put into the field 200,000 men and 400 cannon.

The régime of Prince Carl, and of the men who have remained at the head of affairs ever since his reign commenced, has been marked by as salutary a change and as great an improvement as any nation can exhibit. The corruption and malfeasance which prevailed in the public service, the extortions and oppressions to which the people were subjected, made miserable the condition of this intelligent and hopeful nation settled in a pleasant and fertile land.

The improvement in the finances began at once and has gone on uninterruptedly. The deficit of 1866 was covered in two years, and the future prospect of the country is very favorable.

RUSSIA (EMPIRE OF ALL THE RUSSIAS), an empire in Europe and Asia. The Emperor, Alexander III, born February 26, 1845, succeeded his father, Alexander II, March 13, 1881; married October 28, 1866, to Maria Feodorovna (formerly called Marie Sophia Frederica Dagmar), daughter of King Christian IX of Denmark, born November 14, 1847. The offspring of this union are four children: 1. Nicholas, heir-apparent, born May 6, 1868; 2. George, born April 27, 1871; 3. Xenia, born March 25, 1875; 4. Michael, born November 23, 1878.

The area, according to a calculation by Major-General Strelbitzki, is 21,703,000 square kilometres, or 8,379,878 square miles. The total population is estimated at 88,018,500. The area (inclusive of inland waters) and population of the different parts of the empire are as follows:

DIVISIONS.	Square kilometres.	Square miles.	Population.	Year.
1. Russia in Europe.....	4,918,467	1,899,100	65,199,910	1870
Kingdom of Poland.....	127,316	49,159	6,528,017	1872
2. Grand duchy of Finland.....	373,536	144,223	2,028,021	1879
3. Caucasla.....	464,956	179,527	5,628,344	1873-'76
4. Siberia.....	12,495,109	4,824,563	3,440,362	1873
5. Central Asia.....	3,323,616	1,283,301	4,401,876	.....
Total.....	21,703,000	8,379,878	88,018,500	.....

The population of Finland, in 1879, was distributed as follows:

DENOMINATIONS.	Male.	Female.	Total.
Lutherans.....	974,900	1,014,326	1,989,226
Orthodox Greek Church.....	18,961	19,270	38,231
Roman Catholics.....	482	82	564
Total.....	994,343	1,033,678	2,028,021

The financial estimates for the year 1881, as sanctioned by the Emperor on December 31, 1880, were as follows (in rubles):

GROSS RECEIPTS.	
Head-tax and ground-tax.....	118,752,350
Patents.....	19,257,400
Direct taxes.....	183,009,750
Customs.....	96,524,000
Excise.....	239,991,880
Other indirect taxes.....	40,076,471
Indirect taxes.....	376,592,351
Public works.....	26,320,677
Crown lands.....	33,909,787
Miscellaneous receipts.....	44,937,321
Receipts from Transcaucasia.....	8,599,089
Total ordinary receipts.....	628,368,975
Extraordinary receipts.....	24,953,551
Reimbursements of expenditures on account of railroads.....	64,139,083
Total.....	717,461,609

EXPENDITURES.

Public debt	193,338,684
Supreme administrative bodies.....	1,656,876
Holy Synod.....	10,321,265
Ministry of the Imperial House.....	9,154,658
“ of Foreign Affairs.....	8,645,225
“ of War.....	206,718,302
“ of Navy.....	28,903,132
“ of Finance.....	83,741,500
“ of Public Domains.....	19,152,183
“ of the Interior.....	37,999,917
“ of Public Instruction.....	17,353,296
“ of Public Roads.....	11,586,594
“ of Justice.....	16,554,596
“ of Posts and Telegraphs.....	21,602,712
Foreign Churches.....	1,800,173
Civil administration of Transcaucasia.....	8,153,326
Miscellaneous expenditures.....	3,033,201
Total ordinary expenditures.....	674,725,640
Deficit expected in the receipts.....	4,000,000
Extraordinary expenditures.....	24,953,551
Extraordinary expenditures on account of railroads.....	13,782,418
Total.....	717,461,609

The state of the public debt, on January 1, 1879 and 1880, was as follows, according to a report of the Minister of Finance of June 4, 1881 (in paper rubles; 100 paper rubles equal 66·37 specie rubles):

CLASS OF DEBT.	1879.	1880.
Funded debt:		
Foreign debt.....	720,270,163	672,488,519
Home debt.....	1,080,271,995	1,367,335,206
Floating debt.....	1,034,415,207	940,711,421
Debt of the Imperial Bank...	646,552,960	1,500,227,553
Total.....	3,481,510,055	4,480,812,699

The strength of the Russian army in 1880 was as follows:

	PEACE FOOTING.		WAR FOOTING.	
	Men.	Horses.	Men.	Horses.
I. REGULAR ARMY:				
Infantry.....	625,617	11,149	1,915,743	32,296
Cavalry.....	85,860	61,727	94,466	93,440
Artillery.....	108,610	21,252	210,772	118,300
Engineers.....	20,624	661	43,352	14,020
Total.....	840,711	94,789	2,264,293	258,056
II. IRREGULAR ARMY:				
Infantry.....	6,500	.....	8,510	.....
Cavalry.....	34,196	32,754	142,400	128,810
Artillery.....	2,912	1,989	12,650	11,440
Total.....	43,608	34,743	163,560	140,250

The total imports and the exports of domestic goods in 1879 were as follows (values in rubles):

COUNTRIES.	Imports.	Exports.
Germany.....	249,498,000	184,139,000
Great Britain.....	146,560,000	134,362,000
France.....	22,735,000	86,044,000
Austro-Hungary....	19,936,000	32,865,000
Turkey.....	15,419,000	13,869,000
Belgium.....	7,213,000	26,801,000
Netherlands.....	8,573,000	38,744,000
Italy.....	11,939,000	12,218,000
Sweden and Norway.	3,520,000	12,198,000
Denmark.....	.....	5,206,000
Greece.....	3,161,000	2,150,000
Roumania.....	1,882,000	9,050,000
United States.....	6,423,000	.....
South America.....	32,615,000	.....
China.....	19,003,000	1,982,000
Persia.....	7,191,000	3,422,000
Other countries.....	25,916,000	3,870,000

The movement of shipping in 1879 was as follows:

SHIPPING.	Entered.	Cleared.
Baltic Sea.....	8,378	8,402
Southern ports.....	6,673	6,509
White Sea.....	840	839
Caspian Sea.....	795	612
Total.....	16,686	16,362
Of these were steamers.....	6,375	6,375

The commercial fleet in 1878 consisted of 3,643 sailing-vessels, of 308,230 tons, and 259 steamers, of 74,324 tons.

On July 1, 1880, there were 22,644 kilometres of railroad in operation, exclusive of Finland. The number of post-offices in 1879 was 4,374: of letters sent, 102,461,031; of wrappers, 8,303,025; of registered letters, 5,789,493; of money letters, 8,782,662; of packages, 2,519,535; of newspapers and periodicals, 78,620,531. The aggregate length of telegraph lines was, in 1878, 99,917 kilometres, of which 75,081 were state lines. The number of offices was 2,534; the number of dispatches, 5,761,731. The receipts of the telegraph-office (in 1878, 28,113,702 francs) showed in recent years a small annual surplus, which is, by imperial decree, always devoted to the extension of the telegraphic system.

The Emperor Alexander II was assassinated by Nihilist plotters, in the streets of St. Petersburg, on March 13th. The event was unexpected and startling. It was more than a year since the last and most desperate attempt upon his life, the explosion at the Winter Palace, had occurred. Before that, and the Moscow Railroad plot, the Nihilists had announced that the Czar had been doomed to death by their secret tribunal, but immediately before the murder none of the customary threats and proclamations were issued. The energetic use made by Count Loris-Melikoff of his dictatorial powers seemed to have been sufficient to extirpate Nihilism. Under his vigorous administration of the authority intrusted to him to deal with the revolutionists at his discretion, the propaganda was apparently checked, and nearly all the active Nihilists were arrested. All the centers of population and hearths of the revolutionary agitation had been for a year under martial law, the governors-general having been induced with absolute authority. The anticipations of success for Melikoff in dealing with the problem of Nihilism were not based alone on his severity and tireless vigilance in its extermination, but on the remedial measures which were a part of his policy. The sincerity and earnestness of Melikoff's character, and his well-known liberal opinions, were a guarantee that the Czar in choosing him had determined not merely to repress with a heavy hand the socialistic agitation, but to remove its cause by sweeping measures for the remedy of social grievances and sufferings, and the extension of limited rights of self-government to the people. The reforms

had been scarcely inaugurated, and their extent and value not yet revealed, when the Nihilists, more embittered than ever by the terrible retribution visited upon hundreds of their compeers, arranged their last plot against the life of the Emperor, a plot which could not fail provided the men who were commissioned to commit the deed did not flinch in the face of certain death; for, unlike the previous attempts, there was no chance of escape for the perpetrator. At the very time of the murder preparations were made for a commission of delegates from the nobility, the cities, and the provincial magistracy, to meet and work out a form of representative government suitable for Russia.

The Emperor had driven in a carriage to view the parade of the Marine Corps. He was attended as usual by his military staff, his adjutant riding with him, and the rest following the carriage. The numerous body-guard of mounted Cossacks preceded and surrounded the carriage. On the return, as the *cortège* reached the Catherine Canal, where some laborers were at work removing snow near the bridge, Ryssakoff, who had pressed to the front among the working mujiks, threw the first bomb. It fell behind the carriage, wounding two Cossacks. The prefect of police, Colonel Dvorjetsky, who followed behind in a sledge, leaped out and seized the assassin, who drew and fired a revolver. The Emperor stepped down from the carriage, and at that moment a second bomb was cast, which exploded at his feet, the fragments breaking both his legs and penetrating his abdomen. Dvorjetsky, who was also wounded, drove the Czar in his sledge to the Winter Palace. He breathed his last not two hours after he was struck. The man who threw the fatal bomb, whose name was Grenevitsky, perished himself from the explosion. Notwithstanding his Polish name, he was a born Russian.

The revolutionists chose for the execution of their design the occasion of the inspection of the Marine Corps by the Czar. A mine was laid under the Little Garden Street in case the imperial party went that way to the review, and in case they did not pass through that street, hand-grenades of ingenious design and terrible explosive force were to be carried by several of the conspirators, who should press near the *cortège* when it passed and hurl them under the Czar's carriage. The organization and discipline for which the anarchist party in Russia is remarkable were displayed in this conspiracy. The head conspirator and director of the whole plot was a man of peasant birth named Jeliaboff, who was arrested a couple of days before the catastrophe. This arrest was made on the evidence of documents found in the dwelling of the nobleman, Alexander Michaeloff, several months before, in which he, together with a graduated student named Trogoni, who was captured in his company, was designated as a person deep in the counsels of the

Nihilist party. The preparation of the bombs was conducted by the latter, who had made a special study of explosive materials, and who had the assistance of a practical chemist named Kibaltchich. This man was detailed for this service, and extraordinary technical ability was shown in the fabrication of the hand-grenades, and of the explosive substances discovered in the Garden-Street mine and in the houses of the arrested conspirators. The explosives were tested by their makers in a lonely spot near the city. The bomb which caused the death of the Czar was probably of the same pattern as a number of others which were found in a room where the confederates congregated. A Jewess named Hessa Helfmann occupied this room with Nicholas Sablin, *alias* Fessenko Navrotsky. This retreat was discovered by the police the day after the assassination, and the woman was arrested, while her companion, Fessenko, shot himself at the moment when the police burst in. The next most important member of the band after Jeliaboff was a young woman named Sophie Peroffskaya, who assumed the direction of the plot after Jeliaboff's arrest. The police were already searching for this woman as an accomplice in the Moscow Railroad plot. Jeliaboff had also taken a part in the laying of that mine. Peroffskaya, Jeliaboff, and Helfmann had all three stood judicial trials at previous times for treason. The perpetrators of the deed were appointed from the novices in the party, and were not informed of what was expected of them until the plans were matured. The thrower of the first bomb was a student in the School of Mines, of the name of Ryssakoff. Russians were chosen for the murderous deed in preference to Poles and Jews, who were eager for the work. There were forty-seven persons that volunteered to execute the crime.

Ryssakoff was a native of the district of Novgorod. He had gained admission to the Mining Institute, which is usually difficult to obtain, by means of a letter of recommendation from Prince Wolkonski, formerly Curator of the University of St. Petersburg, and proved a good student. He had attended the school two years, and was twenty-one years old. He had sought to associate himself with the revolutionary party, and was introduced in January to Jeliaboff, who initiated him into the work, employing him to spread the propaganda among working-men, and, on account of his poverty, paying a portion of his living expenses. The mine in Garden Street was placed under the pavement by tunneling from the wall of a cellar, which was hired by a man who gave the name of Kobizeff, for the ostensible purpose of keeping a cheese-shop. The suspicions of the neighbors were aroused by the fact that Kobizeff and his wife did no business, but had many visitors, and the place was examined by city officials without discovering any indications of a mine, although they searched the walls particularly. As Kobizeff and his companion disappeared on the day of the murder, the suspicions of the

police were strengthened, and a more thorough search revealed the opening leading to a large deposit of dynamite, sufficient to have shattered all the buildings in the street.

Jeliaboff, the agent of the Revolutionary Executive Committee charged with the execution of their decree of death against the Emperor, had formerly been a student in the University of Odessa, from which he was expelled on account of taking part in a demonstration against one of the professors. He married a daughter of a city official, and was brought before the courts in South Russia in 1872 as a political agitator. He was charged, on his trial, with not only planning the present crime, but with being the author of the mine under the Sebastopol Railway.

Sophie Peroffskaya was already a famous person, and was the most remarked of any of the band who were engaged in the regicide, on account of her aristocratic origin. She was of noble birth, and was the daughter of a governor of a province, and niece of an army officer of high rank. She had been several times brought to trial, and had attracted much notice in the trial of the one hundred and ninety-four Nihilists, when she narrowly escaped deportation. The police were searching for her as a suspected confederate of Hartmann in the Moscow Railroad explosion. This woman had received a superior education, and possessed, with her adventurous and fanatical bent toward political conspiracy, a high degree of intelligence. She was living with Jeliaboff, and these two alone were informed beforehand of the assassination plot, the others acting simply under their orders. Peroffskaya planned and superintended the execution of the plot, assigning their places to Ryssakoff, Elnikoff, and perhaps others who had petards to cast in case the first should fail, placing the bombs in their hands, and giving the prearranged signal to each with movements of her handkerchief from the other side of the canal.

Sablin, or Fessenko, who committed suicide in the place of assembly for the conspirators employed in this plot, in Telejevskaya Street, was a noted Nihilist. He belonged to the Moscow group of Nihilists in 1873, and before then was active in St. Petersburg, paying a visit with his friend Lissogub, who was afterward executed, to the chiefs of the party in Switzerland. On his return he obtained a position as teacher in the orphan school at Odessa through Nihilist friends in the municipal government. He was arrested in 1875, but released. A man named Michailoff was apprehended when entering the quarters in Telejevskaya Street, after the police had taken possession of them. He was a peasant, who had become a mechanic.

The trial of the regicides began April 7th. The court was composed of the president, Senator Fuchs, three other senators, two marshals from the nobility, a municipal mayor, and a villago mayor to represent the peasantry. The

prosecution was conducted by Procurator Muravieff. Ryssakoff declared that he held other opinions from those of the section of the party represented by the "Will of the People," and had undertaken to execute the crime in order to destroy both the "white and the red terror" by proving that the Nihilistic activities could not be repressed, and that the death of the Czar would not benefit the socialistic cause. Michailoff, in his statement, dwelt on the miseries of working-men, and the debts imposed on the lands of the peasants, as the causes which had driven him into the revolutionist party, but disclaimed all complicity in the crime. Hussy Helfmann confessed only her connection with the Terrorist wing of the party. Kibaltchich acknowledged his connection with the Terrorists, and stated that his services were of a technical nature. Jeliaboff and Peroffskaya assumed the whole responsibility for the crime, and sought to exculpate the others. Jeliaboff freely confessed that he had worked in the mine in Little Garden Street, that he had assisted in placing the mine at Alexandrofsky under the Sebastopol Railway, and that he had been concerned in most of the later plots against the Czar, and enjoyed the confidence of the Executive Committee. The evidence brought out at the trial showed that the Nihilists of St. Petersburg were divided into two sections—the Terrorists, from whom the crime emanated, and who had for their organ the "Narodnia Volia," or "Will of the People," and the group whose views were expressed in a clandestine print called the "Black Division," who disapproved of terrorism or assassination, except in the case of traitors to the cause. The division in the party dates back to the early part of 1879. A dispute arose as to the advisability of carrying on a struggle against the Government. A number of the Narodni, or popular organization, maintained that a political struggle by terroristic methods was the only way to insure success, and proposed to attempt to bring about an immediate *coup d'état*. The majority adhered to the economical tendencies of the popular party, and to the policy of a socialistic propaganda among the people intended to ripen them gradually for a social revolution. The differences led to a schism in the summer of 1879. After two congresses, held at Lipetsk and Voronege, the terroristic faction separated from the others. The "Zemlia e Volia," the organ of the original party, was discontinued, and two new journals were issued by the two divisions of the party, the "Narodnia Volia," or "Will of the People," by the terroristic offshoot, and the "Tchorny Feredyel," or "Black Division," by the remnant of the original organization, which remained faithful to the policy of a peaceful propaganda.

The High Court of the Senate found the six prisoners guilty, and sentenced them to be hanged, subject in the case of Peroffskaya, as one of the privileged order of the nobility, to

the confirmation of the Czar. Hessa Helfmann, being in a pregnant condition, could not be executed until after her delivery; and her sentence was subsequently commuted by the Czar to imprisonment for life. The others were executed on April 15th.

Two proclamations were issued by the Executive Committee of the Nihilists after the assassination. One was addressed to Europe, and aimed at justifying the deed, enumerating the grievances of the Russian people attributable to despotism and misgovernment, and describing the severities which had driven the party to retaliations. The other proclamation was addressed to Alexander III. It announced that the terrorism would only cease on two conditions: that all political offenders should be amnestied; and that the Czar should convoke a National Assembly, to be elected by the equal votes of all classes, for the revision and reform of the private laws of the state.

The description of the process by which the Nihilists were led to resort to the reprisals which culminated in the assassination of the Czar was given in the first proclamation as follows:

Inspired by ideals of truth and humanity, the Russian revolutionary party kept for many years on the ground of a peaceful propaganda of their convictions. Their activity exceeded the bounds of personal and social exertions which are lawful in all the states of Europe, without exception. As the party chose for its aim the elevation of the Russian workman and peasant to a higher plane of intelligence and the improvement of their material condition, it did not concern itself with the political oppression and arbitrary injustice which prevailed in our country, and took no part in political questions. For this its recompense was cruel persecution by the Russian Government. Not isolated individuals, but hundreds and thousands were martyred to death in prisons, in exile, in the mines; thousands of families were broken up and plunged in immeasurable sorrow. At the same time the Russian Government enlarged the number and powers of the bureaucracy to an incredible degree, and gave the fullest scope to the rule of rogues. Impoverishment, famine, demoralization of the people at the sight of easily gotten riches, and the consequent perverted views of life—all these results, exerting a terribly depressing influence on the character of the people, followed from the course taken by the Government. Everywhere, in all countries, individuals are overtaken by ruin, but nowhere from such slight causes as in Russia; everywhere the interests of the people are sacrificed to the interests of the ruling classes, but nowhere are the people trampled down with greater arrogance and greater cynicism than here. Hunted and baited, by the conditions imposed upon them placed in a position where it was impossible to carry out their ideas, the revolutionary party were gradually drawn into an open conflict with the Government, whereby they confined themselves to defending themselves with weapons in their hands against the agents of the Government. The response of the Government to that was the death-sentence. Life was impossible; there only remained a choice between moral and physical destruction. Scorning the pitiful existence of slaves, the Russian social-revolutionary party determined either to perish or to crush the despotism centuries old which stifled the life of the Russian people. Conscious of the magnitude of its task, conscious of the harm caused by Russian absolutism—harm not only to Russia, but to the whole world, menaced by this system which

suppresses justice, liberty, and civilization—the party began to organize the struggle against the system of despotism. The catastrophe which fell upon Alexander II is only a single episode in the conflict. The Executive Committee does not doubt that the thinking, honest people of Western Europe will understand the importance of this struggle, and will not prejudice the manner in which it is conducted, since this manner is necessitated by the inhumanity of the Russian authorities, and since for the Russian there is no other way but sanguinary conflict.

The first measures of the Government, after the accession of the new Czar, were directed to the protection of his life, which was boldly threatened by the Nihilists. In St. Petersburg and the other university cities there were manifestations of popular sympathy with the revolutionists. Many arrests were made. A great number of the court attendants were dismissed, and the Czar took up his residence in the castle of Gatchina. The governors-general, who have possessed extraordinary powers since the attempt of Solovieff on the Czar's life in April, 1879, prosecuted the most rigorous searches, and all the cities were subjected to the extreme inconveniences of martial law. A body of rural police, called the Uriadniki, was created, whose pursuit of the "enemies of the Czar" was felt by the people to differ but little from the outrages of bandits. The hated "Third Section," the secret police which was supposed to have been abolished, was thoroughly reorganized, under the new name of the "State Police," by its chief, Plome. The precautions taken by the Czar against assassination in his self-inflicted imprisonment in the Summer Palace of Gatchina were of the most exaggerated kind; he seemed to be infected with the nervous fright of his hysterical wife. His isolation in Gatchina was fitfully changed for the equally well-guarded Peterhoff, and then back again to Gatchina. The few visitors who were received, even the officers of state and the chaplain, were obliged to run the gantlet of a succession of Cossack sentries and police officers, and even to have their persons searched. The practice of deportation to Siberia without trial was resumed after the dismissal of Melikoff.

Among the revelations of the rigorous investigations which followed the tragedy of the 13th of March was the discovery that Constantine, son of the Emperor's cousin, the Grand Duke Constantine, had been accustomed to frequent Nihilistic conclaves, and had worked as a propagandist of the socialistic theories among factory-workmen. It was discovered that a lieutenant of the navy connected with the torpedo service had removed from the government stores large quantities of dynamite and given it to the conspirators. This lieutenant, whose name was Sukhanoff, was captured, and a considerable number of naval officers were arrested on suspicion, as well as many officers in the army, among them officers of the Guards. Two dynamite mines were found under the Stone Bridge in the

middle of St. Petersburg. During the summer no new acts of violence were committed by the Nihilists, but in November an attempt on the life of General Tcherevin, the director of the measures for insuring the security of the Emperor, gave evidence of the continued vitality and hardihood of the confederation, notwithstanding the more than three thousand arrests since the beginning of the year. Mines and electric wires intended for the destruction of the Czar were reported to have been discovered in the neighborhood of Gatchina.

The first state business of importance which the Czar was called upon to consider was Melikoff's project of a representative assembly, or elective Redaction Commission, to be chosen by the nobles, the cities, and the rural magistracies, for the revision of the public laws. This proposition had received the approval of the deceased Emperor, yet his successor was with difficulty induced by Loris Melikoff to call a ministerial council for its discussion. The majority of the ministers approved the project at the meeting; but very decided objections were raised by some to a reform which savored so much of a constitution, and soon divisions were sharply drawn, some favoring Melikoff's scheme, some the plan of the Minister of Finance, Abaza, to enlarge the Council of the Empire, and have the additional members elective; and some, with the Grand Duke Vladimir, objecting to any liberal reform, and advising only the harshest repressive measures for the present.

The questions which the representative assembly was to deliberate upon were the solution of the agrarian question by means of reductions of the purchase-money for the peasants' lands and of the land-taxes; the restoration of certain powers to the municipal and rural authorities and the enlargement of their sphere of activity; the cessation of the repressive policy in Poland and the other border lands; and the reform of all the local administrations from the communal up to the provincial governments. Coupled with this scheme of an embryo Parliament was a plan for rendering the ministers responsible in a greater degree, and insuring their more harmonious action, which was adopted without opposition. According to the new rules, every decision of the Cabinet Council must be by a unanimous vote, and, failing of this, the question is to be submitted to the Czar. After the Czar's decision, the ministers whose votes have been overruled are expected to resign, as is also every minister who has submitted three projects to the Council of Ministers which have been rejected. A few days later the whole complexion of affairs was changed by the Czar's suddenly changing his mind and placing himself in the hands of his reactionary advisers. A manifesto was issued May 11th, by which the Czar, who was persuaded in violation of the spirit of the rules to insure harmony in the Cabinet, nullified the purpose of

the convocation of an elective commission, in so far as it was intended to satisfy the popular craving for representative institutions. In this manifesto, composed by the Procurator of the Holy Synod, Pobedonocheff, the following significant passage showed, to the great disappointment of the intelligent classes of Russia, that the new Czar would not agree to the most incipient and rudimentary beginnings of popular self-government:

In the midst of our great affliction the voice of God commands us to discharge courageously the affairs of government, trusting in God's providence, with faith in the strength and justice of the autocratic power, which we have been called to support and preserve for the people's good from all impairment and injury. Therefore let courage animate the troubled and terror-stricken hearts of our faithful subjects, of all lovers of the fatherland, devoted from generation to generation to the hereditary imperial power. Under its shield and in unbroken alliance with it our land has more than once lived through great troubles and has grown in strength and glory. Consecrating ourselves to our high service, we call upon all our loyal subjects to serve us and the state in truth and justice to the rooting out of the horrible sedition that dishonors the land of Russia, the strengthening of faith and morality, the good education of the young, the extermination of injustice and plunder, and to the introduction of order and justice in the operation of those institutions presented to Russia by her benefactor, our beloved father.

A change was made in the Ministry of Education in April. Baron Nicolai, who had formerly been Golovnin's assistant in the various reforms of a liberal tendency accomplished by that minister, such as the University Statutes of 1863 and the elementary school law of 1864, succeeded Saburoff, while the latter went to Berlin to further the design of an international agreement for the extradition of revolutionists. After the issue of Pobedonocheff's manifesto the majority of the ministry, to whose counsels the Czar had expressed his agreement at the late Cabinet meeting, but now repudiated, all tendered their resignations. Waluieff, Milutin, Possiet, and Adlerberg, who had been opponents of Loris Melikoff, resigned with him as well as his friends, Abaza, Nikolai, and Kochanoff. Count Melikoff's resignation was accepted forthwith, and Ignatieff was nominated his successor in the Ministry of the Interior, May 16th. Others of the ministers were requested to retain their portfolios for the present. Milutin, Minister of War, was succeeded by Lieutenant-General Vanoffski. Count Adlerberg II, Minister of the Imperial Household, the favorite companion of the late Czar, was succeeded by Count Vorontsoff-Dashkoff, aide-de-camp of the present Czar during the Turkish war.

Ignatieff, who was known as a versatile politician without settled opinions, made it clear that the only reforms in prospect were such as would meet the views of the Pan Slavistic enthusiasts for the sacred and patriarchal autocracy, in a circular published on his entry into office, of which the following is a summary:

The origin of the terrible deeds which have startled the whole world by their atrocity must be sought, not only in the evil minds of the perpetrators, but deeper in the absence of religious and moral principles in the education of the children, in the culpable negligence and apathy of many government and social officials, and in the fraudulent proceedings of the officials who are charged with the state and public funds. In regard to the extirpation of the seditious spirit with which the country is impregnated, it is only by the autocrat, strong in the loyalty and unbounded devotion of his many million subjects and in the indissoluble alliance with them, that this heavy burden can be removed and the enormous task be accomplished. The Czar summons us all to aid in the work, and at the same time indicates the path along which we are to proceed. The principal energy of the Government will be directed to the eradication of sedition.

The secret correspondence between the Russian authorities and the Ameer Shere Ali, which was found at Cabool by the British, revealed a compact which was incompatible with the agreement with England that there should be no interference in Afghanistan. In England the party in power refused to discover any portent of danger in the existence at that time of a secret league between Afghanistan and Russia, in which the latter promised to aid Afghanistan, in a war against the British, with munitions of war and 32,000 troops, and urged the Afghans to stir up a rebellion in India. The fact that these intrigues were carried on for the purpose of compelling England's acquiescence in the Russian designs against Turkey, was regarded as a sufficient excuse by the Liberals of Great Britain. "The enemy of your famous religion wants to make peace with you, through the Sultan of Turkey," read one of the letters to the Ameer, and hence the Ameer was advised to "make peace openly, and in secret prepare for war," and to look to the "brothers on the other side of the river, if God should stir them up to fight"—that is, to foment a rebellion of the Mohammedans beyond the Indus, before openly waging war against India. A treaty was concluded, in which the Ameer engaged not to make war without consulting Russia, and Russia to aid the Afghans with arms and auxiliaries and help them to recover "the ancient country of Afghanistan."

In the retrocession of the Kuldja province to China (see CHINA), in accordance with the promise made when Russia took possession of the district in the war with Yakoob Beg, the only reservation made by Russia was, to secure settlements for the restless and disaffected Dungans and other portions of the population, who dreaded the oppressions of the Chinese, and elected the rule of the White Czar. In the treaty, which was signed at St. Petersburg on August 19th, by the Marquis Tseng and the Russian minister De Giers, the Emperor of China agreed to grant a full amnesty to all who engaged in the rebellion, and to allow the inhabitants to choose whether they would remain Chinese or become Russian subjects. Russia retained a strip of country in the western part of the province, a sufficient foothold

for future commercial and military operations. The Russians are permitted to trade in Kuldja, Tarbagatai, Kashgar, and the cities of the north and south slopes of the Thian-Shan, free of duty for the present. At Kin Yu Kwan, a gate of the Great Wall, and at Turfan, as well as at Kuldja, Kashgar, Ourgas, and at Kobdo, Khar-mi, and other Chinese towns, Russian consuls may be appointed. Russian caravans will not be allowed to pass the frontier posts of Kurgan and Kin Yu Kwan. China agreed to pay an indemnity of nine million rubles for the costs of occupation and losses to the inhabitants.

RUSSIAN GOVERNMENT, THE. The question of liberalizing the methods of government in Russia is one of increasing interest and importance, but of no little practical difficulty. At present there is a peculiar combination of local self-government within restricted limits, and of unrestrained autocracy of the Czar in imperial affairs. For three centuries the peasantry was held in the position of serfs, and attached to the soil through a sort of necessity, arising out of their vagrant habits. These habits were the result partly of the admixture of Tartar blood in their composition, and partly of the insecurity into which the country had been thrown by many years of Tartar outrage and devastation. It was found expedient to bind the laborer to the soil which he tilled, paying him for the field he cultivated for his master by the enjoyment of the field he cultivated for himself. But this dependence of the land-laborer on the land-owner was too nearly akin to slavery, and too liable to abuses, to be tolerated in a European state, and, by the autocratic act of the late Emperor, the Russian serfs—22,000,000 in number—were not only converted into free peasants, but also into peasant proprietors, owners of the land which had been the wages of their bondage. The freedom of the peasant, and his ownership of the land, are still incomplete, for he is bound to the village or commune of which his landed property compels him to be a member. A village in Russia, especially in "Great Russia" (Northern and Eastern Russia), is an autonomous association, governing itself on the basis of ultra-democratic equality and universal suffrage. The legislative power resides in an assembly of all the heads of a family, whether male or female, which rules everything by a majority of votes, usually by acclamation, appoints its own executive, elects its elder and other local functionaries, and apportions the lands which the village owns in common. Every head of a family has the permanent and hereditary possession of his house or cottage, and of the adjoining kitchen-garden; but of the remainder of the landed property of the village he only enjoys that share which is adjudged to him by the vote of his fellow-villagers, and which is proportionate to the able-bodied and grown-up men or women that the family can muster. Both for his freedom and for his share of the common property it was

understood, at the time of the emancipation in 1861, that the peasant owed compensation to his former landlord, and that the payment of his ransom should extend over a period of forty-nine years, or till the year 1910. The Government, however, coming to the peasant's assistance, took upon itself to advance to the landlord at once, in bonds at eighty per cent, four fifths of the ransom due, leaving the peasant to settle with the landlord for the remaining fifth; and, at the same time, exacting from the peasant the interest of five per cent on the money advanced by the Government to the landlord. For the payment of this five per cent interest, as well as for the fifth of the ransom-money still due to the landlord, and of all other land-taxes or duties, the commune or whole village is responsible, and is, therefore, empowered to levy on all and each of its members whatever money is needed, taking care that the share each has to bear of the common burdens should be proportionate to his share of the common property.

If the population of each village remained stationary; if the share of land allotted to each family was sufficient for its wants; if every family and each member of it were equally sober, industrious, and thrifty; and if the redistribution of lots, which usually takes place every three years, were always made on fair and equitable terms—this system might work as beneficently as was apparently intended. But, even in that case, the fact would remain that the peasant is almost as effectually bound to the soil, under the commune, as he was as a serf under the landlord. He is compelled to pay for the possession of his land quite as much in money as he formerly paid in labor. In some of the provinces, where the soil is fertile, enough may, perhaps, be made out of the common land to meet the common liabilities; but in poorer districts it is necessary to eke out the revenue proceeding from the land by allowing some of the members of the commune to go forth and "better themselves" by seeking employment in any capacity which will enable them, not only to bear their share of the burdens of the commune, but also to benefit the commune by paying a percentage of their extra earnings. This leave of absence for the good of the estate was as usually granted by the landlord as it is now by the commune; and so much of the fruit of his toil as an able and willing serf had formerly to yield to his master, an intelligent and laborious freedman has now to contribute to make up for the short-comings of his idle fellow-villagers. Practically, however, the peasant takes more liberty than the emancipation was meant to award him. The emigration of the land-laborers from the country to the town, and from the poorer to the richer districts, is incessant, and assumes every day more alarming proportions. As pilgrims, as harvest-men, as peddlers, or simply as runaways, a large proportion of the rural population of Russia is perpetually on the tramp. The nu-

merous manufactories, of every description, that a protective system of customs duties has called into existence, have a tendency to crowd the city at the expense of the country, in spite of the hindrance of the passport regulations, and of the control that both the commune and the police are supposed to exercise on the movements of all Russian subjects. The result is already that "about one million and a quarter of peasants habitually live in the towns."

Much of the soil of Great Russia is capable of being made very fruitful by careful and intelligent cultivation, but the peasant has neither the intelligence, the energy, nor the capital to develop its capabilities, and the interest of the landlord has been eliminated by the emancipation. Migration to the mines of the Ural districts, to the factories of the central provinces, and to the naturally more productive soil of the south, is constantly going on, and threatens the population and strength of the most important part of the empire. This migration is not the normal result of overpopulation or a high development of industries, for what the country thus drained most needs is an active and energetic application of labor and capital to its hidden resources. Neither is there any healthy assimilation of the shifting population in its new situations. Beyond the boundaries of Russia proper there are vast zones of conquered territories, inhabited by mixed, half-subdued races—Finlanders and Germans of the Baltic provinces in the north-west; Tartars in the east and southeast, from the Volga all across the Asiatic continent; Tartars and other half-tamed, half-civilized tribes in the south, in the Caucasus, and the Crimea; finally, Poles, Ruthenes, Lithuanians, and other south-Slavic or alien races in the southwest, in Little and New Russia, or in the west, in White Russia and in the former kingdom of Poland. In all these territories and among these various nationalities Russia can scarcely be considered as thoroughly at home; the subject people are held in check, here by long habits of submission, there by considerations of common interest, everywhere by the consciousness of their own weakness and of the irresistible material preponderance of the ruling race; yet all, or most of them, are cherishing local traditions and aspirations, resenting and, passively at least, resisting intrusion, encroachment, and any attempt at amalgamation, smarting under the sense of unmerited defeat and intolerable oppression, and harboring unfriendly or even implacably hostile feelings against their conquerors. In no European state is the need of a strong and wise government more deeply felt than in the Russian Empire, and nowhere, perhaps, are the rulers of the land more helplessly and hopelessly bewildered; nowhere are the people on whom the state relies for its stability more deplorably disorganized and disheartened.

The government of Russia was based on the principle of autocracy. There was no other law than the will of the Czar, so far as it reached; but beyond it, in the village commune and in its aggregates, the canton and the *volost*, as well as in the municipal councils and provincial senates, the rudiments of an ill-defined but unlimited popular government have been lately introduced. Wherever the good pleasure of the Emperor and the lawful or unlawful gains and perquisites of the formidable host of his administration are not interfered with, Russian subjects are allowed to manage their own affairs at their discretion, appointing their local authorities upon the basis of universal suffrage, and in the interests of democratic equality. That the Emperor was not all-seeing, omniscient, or omnipotent; that the administration was a mass of corruption and the municipal organization vitiated by bribery at its electoral sources, and, at the best, incapable and inactive, were all undeniable truths, universally proclaimed and admitted. But the special evil in Russia consisted in a vain attempt to reconcile representative institutions with irresistible absolutism, without at the same time fixing the limits between the sovereign power and the popular rights. Self-government was given to the Russians, not as a control upon, but as an auxiliary to, the administration. The commune was empowered to assess and collect, provided it paid the taxes. The management of the street pavements, of the sewers, of the lighting of a city, was left to its corporation; but on the laws or their execution, on the general interests of the state, none of these local bodies had a voice, none were consulted; and even in mere local matters they never came into collision with the civil and military governors, with the police, or other agents of the central power, without being worsted in the conflict.

That there is much discontent in Russia with the existing state of things can not be denied. The emancipation of the serfs, the opening of the law courts, and other liberal measures with which the reign of Alexander II began, raised expectations which have not been and probably could not be fulfilled. The educated classes are, however, rather addicted to theorizing than capable of promoting practical reforms. They are dissatisfied with the Government, and dream of an era of larger liberty and sounder institutions, but are fearful of insurrectionary movements, timid before the power of the military organization of the empire, and incapable of initiating or conducting any rational agitation for peaceful changes. The lower classes, on the other hand, regard the autocracy with a sort of superstitious reverence, and have no discontent sufficiently wide-spread or intelligent to admit of guidance toward any practical improvement. The only effective revolutionary force at work is that of the Nihilists. The extent and precise charac-

ter of this secret organization are unknown, but its present purposes are wholly destructive. It acts upon the principle that the first work to be done is to destroy the autocracy, whose vital and vulnerable point is the person of the Czar. Hence its method is deliberate assassination. The Nihilists may not be capable of replacing despotism with more liberal institutions, but their persistent attacks upon the head of the Government, making it insecure, and compelling extraordinary precautions for its protection, may nevertheless force changes which would not so speedily come without their terrorism. It may possibly be found that a modification of the institutions of the government in a liberal direction may be a more effective safeguard for the life of the Czar than a system of espionage, rigorous repression, and military despotism, with the concomitant of a vigilant but not unfailing guard for the imperial person at all times and in all places. Nihilism strikes at the Czar, because the system which it hates centers in his person. He alone has the power and responsibility which it wields. If, as in countries with constitutional governments, the power and responsibility of the state were deputed and distributed, its nominal head would be safer. This consideration, if no other, may induce changes. With something like good-will and earnest purpose, it would doubtless be possible to create a system of government even out of such imperfect and corrupt elements as exist in Russia. There might be a responsible cabinet to stand between the assassin's dagger and the person of a "reigning, not ruling," sovereign. Russia has her communes, cantons, and *volosts*; her municipal councils, her provincial senates; she has a grand duchy of Finland, with a separate constitution and administration; she has her Baltic provinces of Esthonia, Livonia, and Courland, with orders and institutions of their own. It is difficult to see why the principle of personal unity, which works tolerably well in Austro-Hungary and Norway-Sweden, should not be successfully applied to a vaster country and a more divided people than either of those dual monarchies—applied on a larger scale and a more comprehensive plan. A recent writer, who has made the tour of most Russian dependencies, visited people more or less recently incorporated with the empire, races various in blood, in faith, in language, in social progress, declares that he has found nowhere, save, perhaps, among the Poles, either implacable hatred against the Russians or irresistible longing for independence. There is in Russia, as in all great empires, a cohesive strength, a force of gravitation, arising from a community of vast material interests, that, as a rule, under good management, soon gets the better of local pride and national antipathy. The Russian subjects in non-Russian districts do not grudge their allegiance to the Emperor, nor do they expect that they could better their condition either by isolation or by annexation to other

powers. They simply resent as unfair and unnatural all attempts at Russification; they stand up for their language, their creed, their laws and usages, their traditional individuality. They, above all things, resist, as uncalled-for and needless, all interference of the imperial administration, of the police, of the military authorities, with what they consider absolutely local and separate affairs.

If self-government in every village, town, or province were a reality; if the various divisions of the empire were assured of as large an extent of autonomy as may really be good for them—such autonomy as is or was allowed to the countries on the Baltic or to the Polish kingdom before its final extinction in 1868—then, when all the members of the colossal body had obtained their utmost natural development, it might be found that vitality would flow more spontaneously to the heart—to that Imperial Government and Council of “All the Russias” which would then provide for the general welfare and rule the common destinies. The tendency of the Imperial Government has always been in the contrary direction. It has valued every conquest, not for its intrinsic worth, but for any use it could be put to as a stepping-stone to further conquests. It has given foreign policy an undue preponderance over all matters of mere home interest; it has trained a large school of crafty diplomatists, but provided little or no instruction for able administrators. It has made all peaceful institutions subservient to the exigencies of the war establishment, introducing even the ranks and titles of military organization into every branch of civil service. It has relied for internal order on that same array of bayonets which was to open the way to foreign conquest, and made of the people an armed nation; and little respect for local rights, instincts, or aspirations could be expected of an autocracy determined to turn the country into a barrack. But even in their foreign transactions, even in their warlike enterprises, Russian rulers were hampered by the baneful influence of their artificial and improvident domestic system. Their military successes have resulted in small national advantage or prestige. On the

side of Europe other nations present an irresistible check to their aggressions, and the possible advantages to be gained from extended possessions toward the south in Asia are sacrificed by the lack of a progressive policy in commercial and industrial affairs. Russia can hardly aspire to be more than a second or third rate naval power, and against the development of her maritime commerce she has not merely political but insurmountable natural obstacles to contend with—enormous distances, frozen oceans, a scanty population, irreclaimably barren solitudes. For her internal welfare, for her pacific intercourse with her neighbors and the interchange of commodities, both her position and the progress of modern invention have sufficiently provided. If her railways, her roads, her harbors are in a backward state; if the wealth of her mines is in a great measure unproductive and almost unexplored; if the harvest of her rich black earth districts can not withstand American competition—Russia has only herself to blame. Even the greatest inconvenience with which the empire has to struggle—the scantiness of population—is the result of social more than of natural causes—of the crushing hard work to which the women are doomed, of the cruel exposure of the children of the poor in tender age, and especially in those charitable institutions which take upon themselves the charge of vicarious maternity. The country has been and is advancing at a rapid rate in spite of the short-comings of the Government, and it can hardly be estimated how much further its prosperity might be carried by rulers who should give it a chance, who should better inquire into its wants and satisfy its wishes—rulers who should give the country peace and at least partial disarmament, and a reasonable amount of freedom, self-government, and sound education; who should equally consult the interests of every branch of trade and industry on the principle of an elevated commercial and economical policy; who should base sovereign authority on the people's strong instincts of loyalty, and should not suffer their devotional feelings to be misled by the arts of a corrupt and tyrannical priesthood.

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SALVADOR (REPÚBLICA DEL SALVADOR), one of the five independent republics of Central America. An official publication gives the result of an incomplete census, taken in 1878, at 482,422 (241,119 males and 241,303 females), and estimates at 72,363 the number of the inhabitants not absolutely counted, thus showing a total population of 554,785. European statisticians regarded 450,000 as the maximum number to be admitted for the year above mentioned. In the *Memoria* laid before the Legislative Assembly by the Minister of the

Interior in 1878, the population of the capital, San Salvador, stood at 14,059.

The President of the Republic is Señor Don Rafael Zaldívar (May, 1876), and the Cabinet of June, 1880, was composed of the following ministers: Foreign Affairs, Justice, and Public Worship, Señor Don S. Gallegos; Interior and Public Works, Señor Don D. Angulo; Public Instruction, etc., Señor Don D. Lopez; War and Finance, Señor Don P. Melendez. The legislative power is vested in a Congress comprising twelve senators and twenty-four deputies.

The standing army, in 1876, was 1,000 strong, and the militia 5,000. It appears that since that time the militia has been raised to 18,500, but no official mention is made of the army strength.

A decided improvement is apparent in the financial condition of the country since 1878; not only have the receipts increased, but they are greater than the expenditure, notwithstanding the latter are now much larger than they were a few years ago. In 1880 the national revenue amounted to \$3,272,740, and the expenditure to \$3,122,063.

In 1871 Salvador had but a very small national debt, the total amount of both branches of which (home and foreign) did not exceed \$705,800, chiefly represented by *libranzas*, or treasury notes. In 1872 and 1873, however, when the republic raised troops on various occasions for the purpose of invading Honduras, the debt was considerably increased. At the commencement of 1875 an official publication gave it at \$4,363,227, and in 1880 the converted debt (*deuda convertida*) amounted to \$1,733,037, exclusive of a floating debt of \$340,848.

The trade statistics for 1880 could hardly be more encouraging. The exports, besides a large increase, show a striking superiority in total value over the imports, as may be seen from the tables inserted below, reproduced from the Salvador official journal. The total imports were 142,082 packages, of the gross value of \$2,294,542.58, the chief commodities enumerated being: Cotton fabrics, \$810,276; linen and silk fabrics, \$92,719; wines and liquors, \$133,618; breadstuffs, \$161,956; provisions, \$54,480; drugs and perfumes, \$54,645; machinery, \$61,657; hardware, \$51,970. The exports were of the aggregate value of \$4,273,038.30, coffee figuring, as usual, foremost among the staples shipped. It may be observed in regard to this item, however, that in quoting its value the Salvadorian tendency to exaggeration in these matters would seem to have had free play, \$2,440,087 being a suspiciously large sum for the proceeds of the sale of 115,111 sacks of coffee, nor can it readily be imagined in what market almost \$20 per sack could have been secured for the entire quantity exported. Next in order of importance comes indigo, of which 7,829 ceroons were sent out of the country, of the gross value of \$1,173,672.50; sugar, hides, tobacco (leaf), rice, and balsam, stand respectively for the values of \$68,030.33, \$43,007.10, \$56,491.10, \$38,711.58, \$33,725; cigars of the value of \$27,493 were shipped; India-rubber of the value of \$15,834.10, and deer-skins of the value of \$5,215.50. Of the 1,006 packages of cigars, 802 were taken by Costa Rica, and 129 by Honduras. England, Germany, France, and Italy took, respectively, 31,630, 11,971, 12,019, and 11,085 sacks of coffee, and the United States 46,224, of which 32,713 passed through the port of San Francisco. "Interesting facts, to which attention is attracted in

scrutinizing the table of imports and exports," writes Minister Logan to the Department of State, "are, firstly, that the trade of the Republic of Salvador is largely with the United States, as appears from the circumstances that of the 142,082 packages of merchandise imported during the year, 67,162 packages, or nearly one half the whole amount, were from our own country; and of the 161,823 packages exported, 63,122, being only 7,779 packages less than one half the whole exportation, were sent to the United States; secondly, that the articles imported more largely from the United States than from European countries were provisions, flour (the total importation being from California), fine hardware, and machinery. Of the latter, we sold 2,342 packages, as against 1,607 sold by all Europe. Sewing-machines probably constituted a large proportion of the packages under this heading, as imported from the United States; thirdly, that the article more largely bought by the United States was raw sugar, and that more than one third of the coffee export was to the United States; fourthly, the articles more largely imported from European countries were cotton and linen goods, wines and liquors, crockery and glassware, drugs and perfumery, and iron-ware; and the articles more largely exported to European countries were indigo and coffee. The showing of trade between the United States and the Republic of Salvador is very favorable to the former, and is to be considered as an illustration of the correctness of the principle stated in the body of my dispatch, viz., that mutual purchases underlie permanent trade relations. In the present case the trade is divided between the United States and the countries of Europe for the reason that all buy largely of the products of Salvador. In case we bought nothing of that country, then all of its purchases would be made in Europe (because its credits would be there exclusively), with the exception of such articles from the United States as command a market, the only one of these being, in the present instance, the flour of California." Besides the points here alluded to there are others equally noteworthy and significant, namely, that the foreign trade of the country is steadily and rapidly growing; that the statistics are carefully prepared, and published with a certain degree of regularity, which shows that the Government is zealous in its efforts to develop the national resources, with a view to enduring prosperity; and that Salvador, if not yet an absolutely prosperous nation, is among the most industrious of Spanish America.

For a number of years past the balance of trade has been in favor of the republic. In 1876, for instance, the exports were of a total value of \$3,605,023, while the imports amounted to only \$1,698,083; and in 1880 the value of the exports exceeded that of the imports by \$1,978,546.

Here follow the tables above referred to:

EXPORTS.

ARTICLES.	United States.	South and Central America.	Europe.	Other countries.	Totals.	Values.
	Packages.	Packages.	Packages.	Packages.	Packages.	
Indigo.....	523	78	7,218	10	7,829	\$1,173,672 50
Rice.....	100	7,685	....	107	7,842	38,711 58
Starch.....	...	80	....	..	80	377 76
Balsam.....	127	....	282	..	409	33,725 00
Coffee.....	46,224	2,081	66,806	..	115,111	2,440,087 97
Hides.....	6,594	15	988	..	7,597	43,007 10
Deer-skins.....	91	2	8	..	101	5,215 50
Rubber.....	295	....	23	..	318	15,834 10
Sugar.....	9,051	453	5,611	..	15,145	68,030 38
Rebozos.....	...	34	1	..	35	8,959 75
Cigars.....	12	991	3	..	1,006	27,498 00
Tobacco, leaf.....	....	4,300	2	..	4,302	56,491 10
Money coined.....	40	85	62	1	183	158,925 00
Mineral refuse.....	39	....	793	..	832	93,417 72
Crude silver.....	7	....	228	..	235	101,569 70
Panela.....	....	161	....	..	161	459 64
Copper.....	....	3	....	..	3	260 50
Fruits.....	9	489	2	12	512	3,757 61
Manufactures.....	10	149	2	6	167	3,092 44
Grand totals.....	63,122	16,536	82,029	136	161,823	\$4,273,088 80

IMPORTS.

ARTICLES.	United States.	South and Central America.	Europe.	Other countries.	Totals.	Values.
	Packages.	Packages.	Packages.	Packages.	Packages.	
Cotton in thread and goods.....	1,251	....	18,125	..	19,376	\$810,276 42
Linen goods.....	14	....	110	..	124	11,995 91
Woolen thread and goods.....	16	1	214	..	231	89,132 92
Silk thread and goods.....	8	....	89	..	97	29,183 55
Mixed goods.....	....	....	119	..	119	12,007 54
Provisions.....	2,891	942	2,753	5	6,591	54,480 80
Flour.....	45,915	....	....	..	45,915	161,956 55
Liquors and wines.....	1,881	362	25,237	28	27,508	133,618 49
China and glassware.....	135	23	1,746	..	1,881	29,323 06
Drugs, medicines, and perfumery....	1,379	1	1,751	1	3,164	54,645 19
Ironware.....	1,561	753	3,502	..	5,064	51,979 91
Hardware and various articles.....	8,763	19	16,805	34	26,855	411,953 87
Straw hats.....	....	16	....	..	19	7,131 00
Printed books.....	16	....	179	..	211	13,780 13
Machinery.....	2,335	....	1,607	..	3,942	61,657 72
Unclassified articles.....	597	....	488	..	1,485	26,243 36
Money coined.....	....	....	....	..	....	384,276 11
Grand totals.....	67,162	2,127	72,725	68	142,082	\$2,294,542 58

The shipping movements at the various ports of the republic were as follows, in 1880: Entered, 252 steamers, with an aggregate of 443,080 tons; and 82 sailing-vessels, with a total tonnage of 26,529.

It was officially reported, in 1880, that in the contract for the construction of the Northern Railway of Guatemala, a branch line was stipulated for, to connect the main line with one of the ports of Salvador. Contracts were made for several lines of railway entirely within the republic; among others, one from the capital to the port of La Libertad, and another between San Miguel and the port of La Union. These contracts, however, were conditional, and it was by no means certain that they would be carried out. In 1880 there were 128 good cart-roads in Salvador, with an aggregate length of 575 leagues; and a new road was in course of preparation between the capital and Santa Ana, the most flourishing commercial city of the republic, and the center of a large and important agricultural region. This highway was to be completed by the end of the year, with its bridges, grades, etc., so as to admit of traffic

either by coaches or carts. The central cart-road had also received attention. Over various of the important streams to be met on the line of the leading thoroughfares iron bridges were in process of construction, contracts for which had been made with the Pacific Bridge Company of California, and three of which were to cost over \$150,000. Considerable attention has of late been directed to the encouragement of agriculture, particularly to the cultivation of those products which have a permanent value abroad, and offer the highest remuneration for the agriculturist. An agricultural college was to be established, with which would be connected a model farm, where the students would receive practical experience, as well as the theoretical instruction so necessary for success in a branch of industrial life hitherto neglected in Spanish America. Two thirds of the fertile lands of the republic are still unoccupied and uncultivated. A large portion of these are held by the municipalities, which, by a recent law, are required to throw them open to settlement.

Public instruction has, for a number of years

past, been the object of much care and solicitude on the part of the Government. There were, in June, 1880, 624 primary schools, of which 159 were for females, and having an aggregate attendance of 24,438 pupils, of whom 20,000 were males. Intermediate and higher branches of learning were taught respectively in twenty-six *colegios*, with a total of 1,322 pupils, of whom 341 were females; and in the universities of the capital, Santa Ana, and San Miguel. A college for girls was to be established in Santa Ana. Some \$14,000 had been appropriated by the Government to purchase and fit up a suitable house for the purpose. The *Consejo de Instrucción pública* had decided against the admission to the National University of students holding certificates from schools directed by the clergy. Two night-schools for tradesmen were opened in San Salvador.

SANTA MARÍA, DOMINGO, a Chilean statesman, born August 4, 1825. Educated at the National Institute of Santiago, he took his degree as Licentiate of Laws and Political Science in 1847, and the same year he was appointed under-Secretary of State in the Department of Justice. The following year he was called to the post of Intendente of the province of Colchagua, and thus, at the early age of twenty-three, became a perceptible factor in the fierce struggle for public liberty which, in Chili, marked that critical period. Banishment was his lot for the prominent part which he took in the "liberal" revolution of 1850-'51. After a year of exile in the Peruvian capital, he returned to his native country, betook himself to the practice of his profession, and, thanks to his talent, energy, and eloquence, gradually rose to pre-eminence at the bar and in the Parliament. His ardent defense of liberal ideas in 1858 brought upon him a second proscription, self-imposed, but more protracted and more useful to Señor Santa María than the first. He now visited the principal countries of Western Europe, and even found an opportunity of displaying his professional talents to advantage before the British courts, in a famous lawsuit in which some of his fellow-countrymen were interested. On his return, the political aspect of affairs in Chili having undergone a radical change under the auspices of President Perez and his Cabinet, and the Liberal and Conservative parties having renounced their antagonism and united their forces in support of the Government, Santa María was intrusted with the portfolio of Finance, which he held from January, 1863, to May, 1864. Again a simple citizen, he rendered tangible service to his country in the private and confidential arrangement of the treaty with Spain, which bore the signatures of Covarrubias and Tavira, before that nation declared war against Chili in 1866. In the same year it was Santa María who consummated in Lima the treaty of alliance with Peru, which bears his signature, together with that of Doctor Toribio Pacheco, Peruvian Minister of Foreign Affairs at the time, a compact

which served also as a basis for the immediate adhesion of Ecuador and Bolivia.

Later on he was appointed President of the Court of Appeals; and in 1879, after the declaration of war by Peru against Chili, the necessity of a change in the ministry being apparent, public sentiment designated Señor Santa María as foremost among those who should be called upon to co-operate in a situation requiring the highest order of intelligence. He took the portfolio of Foreign Affairs in the new (Varas-Santa María) Cabinet. In July of the same year Varas withdrew, and Santa María was called to preside over the Cabinet, serving at the same time the Department of the Interior. To the strong, determined nature of the sagacious diplomat is attributed much of the Chilean success in the war with Peru and Bolivia, and to a certain degree the happy issue of the protracted discussion of the boundary question with the Argentine Republic. The Santa María Cabinet was dissolved in June, 1880. On August 30, 1880, the Chilean Congress examined the general returns of the votes from the various sections of the republic, and, in view of these, proclaimed as President of Chili the "eminent citizen and statesman who, for more than thirty years, has been familiar with public affairs, and a constant promoter of the public weal."

SCOTT, THOMAS A., was born in Loudon, Franklin County, Pennsylvania, December 28, 1823; died May 21, 1881. Thomas Scott, the father of this "railway king," kept a noted tavern on the old limestone turnpike, running from Philadelphia to Pittsburg, which, before the introduction of railroads, was the principal avenue of trade and emigration westward. "Tom Scott's tavern," as it was called, was sometimes thronged with as many as a hundred teamsters at once. The boyhood of Colonel Scott, passed among such surroundings, was calculated to receive impressions that later on developed into ideas of the importance of "trunk routes" of communication. He worked on a farm in summer, attended a village school in winter, and, before reaching his majority, had been clerk in several country stores at Waynesboro, Bridgeport, and Mercersburg. Afterward he became the clerk of Major James Patten, collector of tolls, at Columbia, on the State road. In 1847 he accepted the post of chief clerk to the collector of tolls in Philadelphia, the eastern terminus of the State road. It was in 1851, at the age of twenty-seven years, that he first became connected with the Pennsylvania Railroad, then only partially constructed. After a year's residence at the junction near Hollidaysburg, in charge of the business of the company passing over the Portage road and the western division of the State canal, he was appointed to the responsible post of general agent for the eastern or mountain division of the road, with headquarters at Duncansville. On the completion of the western division he was made its general agent at the

Pittsburg office, and on the withdrawal of General Herrmon I. Lombaert from the post of general superintendent of the entire line, Colonel Scott assumed the position, with headquarters at Altoona. In 1859, on the death of Mr. William B. Foster, vice-president, Mr. Scott was chosen for his successor, and was soon known as one of the most active and enterprising railway managers in the country. At the outbreak of the war in 1861 he was appointed colonel on the staff of Governor Curtin, and distinguished himself by his energy in equipping and forwarding the Pennsylvania volunteers. His mastery of all the important details of military transportation suggested his appointment to the position of Assistant Secretary of War under General Simon Cameron and his successor, Edwin M. Stanton, which he held until May, 1862, when his railway interests demanded his resignation. He again accepted, temporarily, a Government commission in 1863, when he went to Louisville and superintended the transportation of the Eleventh and Twelfth Corps *via* Nashville to the relief of General Rosecrans at Chattanooga. At this time Colonel Scott was appointed assistant quartermaster-general on General Hooker's staff. Returning to his railway duties, he was instrumental in securing control of various Western lines necessary for opening communication with the great cities of the West, and, while others deprecated the policy of aiding Western lines, he was always emphatic in favoring it, and subsequent events have amply proved the correctness of his idea which was adopted by the company. In 1871, rival routes to St. Louis and Chicago having been brought under the same management, it was deemed expedient for the simple and effective working of the lines west of Pittsburg that a separate company should be chartered, which was accomplished by the State Legislature of Pennsylvania, March 1, 1871, Colonel Scott becoming president of this company—known as the Pennsylvania Company, being the agency by which the Western roads leased by the Pennsylvania Railroad are operated. At the same date he was made president of the "Pan-Handle Route," otherwise known as the Pittsburg, Cincinnati and St. Louis Railway. He was also president of the Union Pacific Railroad from March, 1871, to March, 1872.

SCRUTIN DE LISTE. The civil divisions of France are known as departments, arrondissements, and communes. The canton is merely a small judicial district. Before 1789 France was divided into a great number of provinces, each having its separate legislation, language, and customs. The limits and even the names of the provinces were effaced by a decree of the Constituent Assembly on December 22, 1789, and the new division into departments was adopted, and the number fixed at eighty-three. Each department was subdivided into districts; each district into cantons; and each canton into municipalities or communes.

In 1795 the Constitution then in force suppressed the district, which was soon after re-established by the First Consul under the name of communal arrondissement. After the consulate the country was divided, as above stated, into departments, arrondissements, and communes. The number of the first division has increased since 1799 from 83 to 89 at the present time. The numbers of all the divisions are as follows: departments, 89; arrondissements, 373; cantons, 2,941; communes, 37,548.

The election of the deputies to the Lower House of the French National Assembly is made by the arrondissements. These may be supposed to resemble the congressional districts in the United States. Each has its defined limits, its local as well as general interests, the candidates are known to the voters, and the one to be voted for is selected by the voters, or more generally by a convention of delegates whom the voters have selected to meet in convention and authorized to designate the candidate. Thus at the election this candidate is voted for, and, if chosen, he is a direct representative of the people, and is bound to sustain their views by the ties of a common interest and a common welfare. If he is not faithful and true in his representation to the demands of his constituents, he is set aside at the end of his term and another sent in his place. If he is not prompt to defend the rights and protect the liberties of his constituents, he is sure to be set aside. The people in a republic constitute the actual sovereign, and it is in accordance with their will, calmly expressed, that all contingencies are to be decided. By this system, the sovereignty of the voice of the people in the Congress, or the National Assembly, is expected to be secured.

Now, Gambetta proposed that the election of the deputies by arrondissements should be abolished, and that it should be made by the departments. The senators of each department were to be authorized by an act of the National Assembly to designate a number of persons who were to constitute a board for the nomination of the candidates for deputies from the department. This list of candidates, thus prepared, was to form the ticket of names for which the voter might give his ballot, and was called the *scrutin de liste*. If he voted for any other person, his vote was really thrown away.

It will be seen that the candidates thus nominated and elected were not representatives of the people, but of the senators and of the board to which they owed their official existence. The popular vote was simply a form, which neither made nor unmade the deputy, after he had received his nomination. Thus the actual sovereignty of the people would be gone. The power would be transferred to those who worked the machinery. They had arrived at the possession of power; they were afraid that they might soon lose the treasure; they feared to trust the people, and they chose the alternative, to sacrifice the rights and to

destroy the sovereignty of the people. Happily, the voters of France penetrated the scheme of Gambetta, and, by defeating it, signified to him that his day was over.

SEYMOUR, ORIGEN STORES, born in Litchfield, Connecticut, February 9, 1804; died August 12, 1881. His first appearance in public life dated from his election to the Connecticut Legislature in 1832 as a member from his native town. In 1855 he was chosen a Judge of the Superior Court, where he served with distinction for eight years. In 1870 he was appointed to the Supreme Court, and in 1873 was made the Chief-Justice. In 1874 he left that high office in consequence of the constitutional limitation of age. Previous to his judicial career he had served in Congress, having been elected to the Thirty-first and re-elected to the Thirty-third Congress.

SILOS, THEIR CONSTRUCTION AND USES. These are pits for the preservation of succulent herbage without drying. The preserved contents of the pit are called *ensilage*. The silo, as formerly employed in modern agriculture, consisted of an excavation in the earth, usually in an elongated form, into which green herbage was placed in its succulent condition, and then covered with earth to exclude air. The pit was dug in some dry locality into which water would not penetrate, and the vegetable matter laid upon the bare earth, but protected from above with boards or other means for preventing the dirt to be thrown over it from mixing with the contents of the silo, and the whole was then covered with a deep layer of earth. In this situation the vegetation is preserved from putrefactive decay from three to six months or more, and apparently in a condition but little changed from what it was when first buried. This form of silo has been largely in use in Europe, especially in France and Austria, for many years, for preserving, for the winter food of domestic animals, the tops and pulp of beets from which sugar had been made, and also green clover, the stalks of maize, and various other vegetable productions not easily desiccated. It is deemed a matter of considerable importance by agriculturists to be able to avoid the necessity of desiccating cattle-food for winter use, and especially desirable to supply neat stock with food in a green and succulent condition, that being the state in which nature seems to have designed them to take it.

Though ensilage when taken from such silos six months after burial appears very much as it did when first put in, it is known that it undergoes material changes, some of which are beneficial, and others are the occasion of serious loss. The first change is that of sugar into lactic acid, the presence of which softens the crude fiber, rendering some of it soluble and digestible which was insoluble before. The presence of the newly formed acid also contributes to changing the amylaceous matters into glucose, which gives them an enhanced

value for food. But the glucose does not remain stable. In its moist and moderately warm condition it goes into lactic acid, like all other saccharine matters under such circumstances, when its food-value becomes a matter of uncertainty. If air were entirely excluded from the ensilage, the changes would stop here, and the loss probably be trifling, and perhaps entirely balanced by the increased digestibility of the fiber. But air is never entirely excluded from an earth-pit. The ground is not impervious to air or other gases. The oxygen of the air permeates the earthy covering, and upon reaching the damp ensilage stimulates alcoholic and acetous fermentations, which cause decomposition, and the evolution of carbonic-acid gas and heat. The top of the ensilage, which comes most in contact with the air, is most affected, the measure of loss being determined by the supply of air. The following, from analyses by Moser and Gohren, at the distinguished experiment-station at Vindö, of green fodder-corn before and after ensilage, will indicate the character and location of loss common in silos made by excavations in the earth. The corn was in blossom when cut, and was packed in silos of medium size, and covered with a layer of dirt several feet in thickness. A hundred pounds of the green corn gave 18.85 pounds of dry solids, of which 6.67 were crude fiber, leaving 12.18 of solid matter available for food. The ash from these solids was .6 per cent. As the ash does not vary by reason of any changes in a silo, a comparison of the weight of dry solids required to yield a given amount of ash before and after going into a silo, will show whether there is any loss by ensilaging, and, if so, how much. Since .6 of a pound of ash comes from 100 pounds of green corn before going into the silo, the ensilage from 100 pounds of green corn must also yield .6 of a pound of ash. After being six months in a silo, a sample of ensilage from the green corn analyzed as above, taken fifteen inches from the top of the silo, required but 9.9 pounds of dry matter, instead of 18.85 pounds, to produce .6 of a pound of ash, showing a loss of 8.95 pounds of dry matter, of which .89 of a pound was crude fiber, and the rest, 8.06 pounds, was available food-elements, indicating a loss of very nearly two thirds of the food-element contained in the green corn. Another sample of ensilage from the same silo, taken thirty inches from the top, and consequently less exposed to access of air, required 12.47 pounds of dry matter to produce .6 of a pound of ash, showing a loss of only 6.38 pounds, of which .51 was crude fiber, and the rest, 5.87 pounds, was available food-element, or nearly one half of the original food in the green corn. In another silo a sample of ensilage, taken three feet from the surface, showed, when compared with the green corn, a loss of 45 per cent of the food-elements in the corn before ensilaging. As the silos from which these samples of ensilage were taken were

made under the directions of the experiment-station, and in the most approved manner, the results show at least the average loss resulting from the preservation of green food in silos made by a simple excavation in dry earth. While the losses are large, there is always a counterbalancing effect in them. The loss in non-nitrogenous food-elements, which are in excess in fodder-corn and most other matters commonly preserved in silos, is much greater than in the nitrogenous or flesh-producing elements. The loss in the former is over 50 per cent; in the latter seldom over 25 per cent; so that ensilage from such silos usually furnishes a better-balanced ration than the green food. But the waste is too great to make it economical to preserve anything in earth-pits which could be preserved by desiccation.

Fully appreciating that access of air to the ensilage was the cause of its wasting, M. Auguste Goffart, of France, introduced improvements in silos for excluding air. An excavation was made with perpendicular sides, and protected with walls of masonry, either brick or stone, with sides and bottom water-tight. When the material to be preserved had been snugly packed in the silo, the whole was cov-

Different materials and a variety of modes of construction are employed. Some are made with thick walls of solid masonry; others laid up dry, and pointed inside and out; some are made of brick or wood, but more are probably made of concrete than any other material. It has special advantages for the purpose. It makes an air-tight wall; is durable, not being affected by frost or water; is a poor conductor of heat, is cheap, and readily constructed without skilled labor.

Silos are preferably located at the side of the barn in which their contents are to be fed, the bottom being on a level with the bottom of the stable, for convenience in feeding, as in Fig. 1, a door opening from the bottom of the silo, or each of its compartments, to the stable, for conveying food to the stock. The necessary covering for protection against wet is easily made in such a location.

Deep silos preserve their contents best, and are more economical in covering and in weights than shallow ones. Twenty feet is a desirable depth when it can be obtained, and an inclined surface gives the best facilities for regulating depth, and the greatest convenience in filling. The lower the temperature the greater the resistance to change. It is therefore desirable that when the contents of the silo have settled all they will, they should not rise above the surface of the ground. So much of the top of the silo as will be vacant when the settling is done, may as well be above the surface of the ground, and consist of a curb of wood that can be removed and replaced at pleasure. In the construction of silos it is a matter of great importance to have the opposite sides exactly parallel, and the surfaces as smooth as possible, so that the covering in settling shall neither crowd, to prevent going down without obstruction, nor leave cracks for air to work in. For the same reason it is also important that the walls should be so thick and firm as not to spring, either in or out. Space is best economized by building as nearly square as convenience will allow, since the same

surface of wall in a square form will inclose more space than in a parallelogram; and experience has proved that it is better to divide a silo into compartments by partitions, sixteen feet apart, rather than to have all the space in one room so large as to make the covering unwieldy, and to cause a needlessly large surface to be exposed to the air when feeding. A silo divided, as in Fig. 2, will require forty-four feet less length of wall, and expose but one third the amount of surface when feeding, as when arranged as in Fig. 3. By filling one apartment at a time, injury will be avoided by keeping open too long.

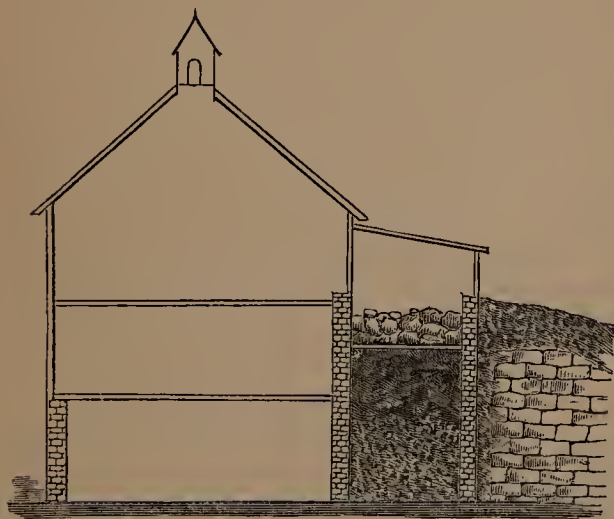


FIG. 1.—CROSS-SECTION OF A BARN AND SILO.

ered with strong planks, closely fitted, to exclude air, and laid directly upon the contents of the silo, and then heavily weighted with stones. By this means the ensilage was pressed into the most compact form, and the air in the vacant spaces forced out, the cover following down as the contents of the silo settled, the closely fitting cover protecting against the admission of outside air. Thus protected, the loss was reduced to a minimum, and the utility of silos greatly enhanced. Since the introduction of this improvement, earth-pits have been steadily going out of use, and air-tight silos multiplying. In the United States silos having tight walls, with rare exceptions, are only used.

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Though silos are generally constructed below-ground, it is by no means necessary to build them so. They can be made above the surface as well as below it, by using double walls, as for the preservation of ice, but one of the walls, at least, should be air-tight, to guard against the percolation of air through whatever is used to fill the space between the walls.

To effect the destruction of organic matter, three things are necessary: a temperature at which changes can be carried on; free oxygen, to produce new combinations; and moisture, as a medium for it to work through. If either one of these essentials is absent, destruction would be prevent-

FIG. 2.

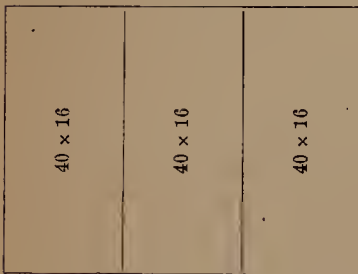
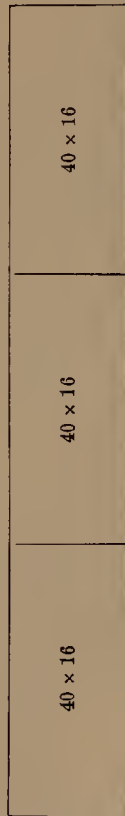


FIG. 3.



ed. It would be exceedingly difficult, either to maintain a temperature so low, or to remove so much moisture from succulent vegetation, as to prevent destruction. The most available resort is to exclude the free oxygen of the air. In building a silo, the chief effort of the builder should, therefore, be to secure the most perfect exclusion of air possi-

lying wet and warm in the pouch of a ruminant, by which the sugar assumes a new form, that makes it more easily utilized by the living organism. This change is inevitable, and will occur whether oxygen, or air, is present or not; but if no further change takes place, material loss in the value of the food preserved will not necessarily be sustained. The destructive agents in a silo are alcoholic and acetic fermentation.

The work of filling a silo should be done as rapidly as possible, in order that what is first put in may not begin to heat and ferment before the cover is laid on. For this reason it is not advisable to make silos or their compartments larger than to hold about 200 tons. The majority of experience favors cutting the fodder (especially corn) very short, a half inch or less in length, but it can be safely preserved whole, and cut afterward if desired. When any considerable amount is to be cut, steam-power is preferred. A ten horse-power engine will cut fine 10 tons per hour, or 100 tons a day, including necessary stops, so that a 200-ton compartment can be filled in two days. Filling thus rapidly makes the work secure against heating or other exposure. A longer time in filling would not be fatal to results, but the shorter the time the better. While the filling is going on, the surface should be kept as level as possible, and the corners well filled in and trodden down, in order that the whole may settle alike. If unevenly packed, and some places sink more than others, the covering will be liable to warp and injure, and open crevices for the admission of air. The best covering yet devised consists of sound, two-inch plank, grooved together in sections, two and a half to three feet wide, for convenience in handling, and long enough to reach across the silo, usually sixteen feet. The sections are also joined with grooves and tongues, making the whole air-tight. As these sections will come

apart easily, they are very convenient for removing, one at a time, when feeding the ensilage, so that no more surface will be exposed than what is desired for cutting down at once.

As soon as the silo is filled, the covering should be laid on at once, and immediately weighted down with stone or other weights, at the rate of 200 to 250 pounds to each square foot of surface. When the settling is done, the joints around the edges of the cover may

be cemented, to prevent any possible admission of air. Thus protected, the contents will remain sound for an indefinite time.

The destructive agents in a silo are alcoholic and acetic fermentation. They can not occur without the contact of air, and are therefore not necessary accompaniments of ensilage. They can be avoided—first, by excluding air from the silo; and, secondly, by feeding the en-

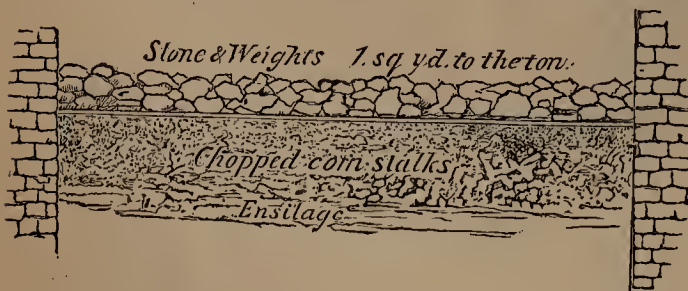


FIG. 4.—SECTION OF A PORTION OF SILO.

ble. This, it is true, will not prevent all change. Where there is sufficient moisture present, as there always is in green vegetation, and a medium temperature, sugar will be changed into lactic acid, but this change is little else than a rearrangement of the atoms of sugar, without involving any destructive disintegration. It is simply analogous to the changes which take place in a mass of half-masticated herbage,

silage when first taken from the pit, or before it has time to ferment. The development of alcohol always implies the destruction of food-elements, and its presence in the ration is unfavorable to the production of meat and milk, and to health. It makes dark-colored and insipid flesh, makes milk thin and poor, and impairs both the quantity and flavor of butter. Permitting the formation of alcohol, is the principal cause of the adverse effects from feeding ensilage, which has caused some feeders to condemn it for the production of milk and butter, and stock-growers to condemn it for the use of breeding-animals. A second cause for unfavorable results from the use of ensilage lies in the imperfect balance of food-elements in the material most commonly preserved—fodder-corn. The stalks and leaves of maize are not, in their best estate, a well-balanced food for an exclusive diet for milch-cows or growing animals. They carry an excess of starch, gum, and sugar, with a diminutive supply of flesh-forming matter. It ought not to be expected that such food could be greatly improved by passing it through a silo. Fodder-corn will be fodder-corn still, with all its excellences and defects combined, whether fed from the silo, or in its green or desiccated state, and must produce the legitimate effects due to its composition. Fodder-corn, to give the most satisfactory returns, requires to be complemented with something like clover, or other food richer than itself in flesh-forming matter, and this is equally necessary whether it is fed from the silo or the field. When constructed, filled, and covered as described, the silo will do its perfect work in the preservation of its contents; but it should not be expected to work miracles in converting imperfect into perfect food. The farmer must expect to take out just what he puts in, the only difference being that the silo starts the work of digestion. If the food he puts in is faulty, it will be faulty when he takes it out; and, if it is good, he may rest assured the silo will not spoil it. He must use skill and judgment in balancing the composition of his food, either when he stores it or when he feeds it out; whether he stores in the barn or in the silo. If he wants to preserve milk-producing food he must put it in, or he will not be able to take it out. If he wants to preserve fat-producing food, he must take the same course. When the farmer has learned to do his part properly, the silo will be accepted as an invaluable aid in the economy of modern agriculture; and preserving, as it does, its contents sound for a time indefinite, it will be as serviceable in carrying the dairyman's herd, with full udders, through the summer's scorching droughts, as in maintaining warmth and vigor in winter's perishing reign.

SILVER COINAGE. (See *Bi-METALLIC STANDARD and FINANCES, UNITED STATES.*)

SOTHERN, EDWARD ASKEW, comedian, died in London, January 20th. He was born in

Liverpool, April 1, 1830. Intended by his parents for a clergyman, he embraced the histrionic profession soon after reaching his majority, and going to America he made his first appearance in the Boston National Theatre as Dr. Pangloss in "The Heir at Law." According to his own account of his first years on the stage, that part of his career was occupied with his being constantly dismissed for incapacity. In Laura Keane's Theatre, in New York, he succeeded in gaining a footing, and after playing a variety of parts for five years, he in 1858 took up the character of Lord Dundreary in "The American Cousin." It was a subordinate part in the play, but, perceiving its possibilities, he gave it a new turning and added gradually a great variety of details. In this rôle he became the most popular actor of eccentric comedy of the day in New York, and afterward in London. In 1864 he appeared as David Garrick in T. W. Robertson's play of that name, and proved that his strength was not limited to farcical comedy alone. His reputation was chiefly based on those two impersonations. A long list of pieces were written for him by the leading comic writers of England, such as Tom Taylor, Byron, and Oxenford. Though very popular in England, he was more attached to the American stage, on which he first attained success, and on which, before his vigorous constitution broke down, he was regarded as the most amusing and attractive actor. His acting was marked by refinement and quiet humor, and the refinement preserved in the farcical touches which he gave to the character of Dundreary was the key to his success.

SOUTH CAROLINA. The debt of South Carolina amounts to \$6,642,321. It is all funded or being funded at 6 per cent interest. The deficiency bonds, amounting to \$562,577, mature in 1888, and the consols, amounting to \$5,887,944, in 1893. The Agricultural College scrip, amounting to \$191,800, is a permanent investment. The sinking fund commissioners are not able to apply the funds in their hands to the retirement of bonds, as the market price has gone above par, and they are restrained from paying more by their regulations. The green consol bonds, which have been decided by the courts to be only valid for a part of their face value, are being converted into the new, brown consols, the coupons of which are receivable for State taxes.

The revenues of the State are derived from a royalty on the phosphates dug in the navigable streams, and a general tax levy. The phosphate royalty was greater in 1880-'81 than in any previous year, and is likely to increase still more. It amounted to \$121,541, and, with a tax levy of 1·4 mill on the dollar, was sufficient to defray the current expenditures. The interest on the public debt was met by a further levy of 2·5 mills, making the general tax levy 3·9 mills.

The session of the Legislature opened November 22d. The principal measure passed

before the adjournment for the holidays was a general stock law for the State. The repeal of the lien law was proposed but was defeated. Proposed amendments in the election laws led to an excited discussion. The principal change proposed was the adoption of a registration law. In the draughted bill, not only was every voter required to register, and furnish proofs on the demand of the supervisor of his identity and residence, but also to pay a fee for the registration. In the debates, this and similar clauses calculated to restrict the exercise of the franchise were stricken out. With these stringent provisions for registration, amounting to a limitation of suffrage, it was proposed to impose effectual regulations against frauds and tissue-paper ballots, etc. A bill was brought in requiring all ballots to be of uniform size and printed on plain white paper. Separate ballots were to be deposited for the State, legislative, and county offices, congressional candidates, presidential electors, etc., there being eight different boxes for the different classes of offices. Only one voter was to be admitted at a time. There was much opposition in both parties to the compromise involved in the proposed election laws. The discussion was not over at the time of the recess. Laws were passed to render the liquor acts of the preceding session more effectual. A revised code of the statutes was adopted. In the previous session, commissions had been appointed for the consideration of amendments in the railroad, militia, election, tax laws, etc. One of these commissions was intrusted with the duty of proposing a plan for amending the Constitution. The minority report of the commission was adopted by the Legislature. This proposed that the Constitution should be revised by the action of a Constitutional Convention, instead of by the direct vote of the people on the proposed amendments. This mode was in accordance with the former practice, but was strongly opposed to the general popular sentiment, which feared that the constitutional rights most highly treasured by the masses—universal suffrage, free education, and homestead exemption—might be swept away by the convention if its action was made final.

The general stock law made a sweeping change in the rights of farmers and the conditions of agriculture. It was felt to be directed against the small farmers, particularly the negro tenant farmers, and to have the same object as the repeal of the lien law would have had. It provided that it shall not be lawful for owners of live-stock to permit their animals to run at large beyond the limits of their own land. Persons finding strange animals on their land may demand of their owners fifty cents for each horse, mule, swine, or horned animal, and twenty-five cents for each sheep, goat, etc., and recover damages for any injury sustained. Stray animals seized and unclaimed shall be advertised and sold by the county au-

thorities. The effect of this law is to require owners of stock to fence in their animals, instead of obliging the growers of crops to erect fences for their protection. The law goes into operation at the end of the year 1882. The brief period allowed was felt to be a great hardship, and was supposed to be one of the causes of the sudden migration of negro farmers and laborers from Edgefield and other counties which took place in the winter of 1881. Some counties which engage principally in stock-raising were exempted on the condition that a boundary-fence should be built around each county at the expense of the people residing therein.

In December one of the sudden migratory movements of the colored population of the South which have become familiar under the name of "exodus," commenced in Edgefield County. The failure of the crops in 1881 had impoverished the colored farmers. The stock law was considered unbearable, as they could not build fences to inclose their cattle at once, and would thus be unable to keep live-stock at all. The proposed registration law supplied them, moreover, with a political motive. They had made inquiries about the conditions and prospects of settlers in Arkansas, and received favorable reports. The movement was premeditated, and had been publicly discussed and prepared for in the three or four months preceding. The start was made on the 24th of December, and before the 31st as many as 5,000 had left their homes in this county. The county was thus stripped in one week of one fifth of the laboring population. The section known as the Ridge, extending from Lexington County boundary along the line of the Charlotte, Columbia and Augusta Railroad to Trenton, twenty-four miles long and four or five miles broad, was left with scarcely a single laborer. The emigrating negroes complained that their efforts for ten years to obtain a living and improve their condition had failed on account of the exorbitant rents and prices of provisions, and that their political rights were denied them, their ballots were not counted, and they were not even permitted to sign petitions against the passage of the stock law, which would make existence impossible for them. The majority of the emigrants worked under a tenancy system. They rented land and paid a stipulated quantity of cotton for each acre. A bale of ginned cotton was paid for from six to ten acres of land. The tenant furnished his own fertilizers, stock, and tools. The soil was very thin, and required a large quantity of guano. In other parts of the county the one third, or share system, of tenancy is in operation. From these districts very few of the negroes joined the exodus. Under this system the planters furnish the stock and implements, and receive two thirds of the crop. They also furnish the negroes with their supplies, and exact less exorbitant prices than the merchants. The profits charged

by the merchants, notwithstanding their first lien on the crop, are said to be not less on the average than forty per cent. A large number of the emigrants—as many as one thousand—removed to Beaufort County instead of to Arkansas. In the Sea Islands the Republicans have the lead, and a considerable colonization of negroes from the northern and middle counties of the State had been going on before. Besides the prospects presented to farmers there was an active demand for labor at higher wages in the phosphate-mines. Similar causes attracted many to Charleston, Colleton, and Hampton Counties. The movement was not confined to Edgefield County, but spread to different parts of Central and Northern South Carolina.

There were in attendance in the public schools in 1881 a total number of 133,453 pupils, 61,339 white and 72,119 colored. The number of schools in operation was 3,057; the number of teachers employed 3,249. The average session was 3½ months. There were 84 more schools and 78 more teachers than in the preceding year. The school fund for the year was in the neighborhood of \$420,000. The constitutional school-tax of two mills is collected and disbursed by the county authorities. The financial management of the school fund is now satisfactory, and all claims are promptly paid; whereas in 1877 there were \$209,940 in unliquidated orders outstanding in the different counties, and these were sold in the market for twenty-five cents and less on the dollar. Many of the counties have cleared off all their past indebtedness.

The fund donated by the Federal Government for the establishment of agricultural and mechanical schools is applied to the support of two schools. One is the school at Orangeburg connected with Claflin College, devoted to the instruction of colored youth, in which 390 students were taught during the year. The other is a similar school for white youth, more recently opened at Columbia, in which there were 59 students in attendance. It is proposed to re-open the old Military Academy at Charleston when the United States Government restores to the possession of the State the Citadel, which it has occupied as a military post.

The Penitentiary, in 1881, for the first time sustained itself and made the necessary permanent improvements out of the earnings of the convicts, leaving untouched, in the Treasury, an appropriation of \$23,000 for prison improvements, and having a cash balance of \$15,000 ahead. The system of leasing out the convicts it is thought necessary to retain for the present; but improvements in the methods are proposed, such as having the overseers and guards appointed and paid by the penitentiary authorities; leasing them only for work which does not require them to be removed from place to place, and requiring the contractors to build suitable barracks; and avoiding special

legislation directing the prison authorities to lease out the convicts for specific and local enterprises. The employment of the convicts upon the large State plantations below Columbia has not been attended with success.

The Lunatic Asylum absorbs over one third of the aggregate current expenditures of the State. The number of inmates in 1881 was 490, all but twenty-five of whom were supported by the State as paupers. To prevent the abuse of burdening the State with the support of lunatics who should be maintained by their families, it is proposed to return to the system in use before the war, and require the counties to support those whom their officials send as paupers to the asylum, just as they are now required to levy the taxes for the maintenance of their other poor.

The number of farms in South Carolina increased between 1870 and 1880, according to the census of 1880, from 51,889 to 93,864, or 80·9 per cent, while the increase between 1850 and 1860 had been from 29,967 to 33,171, or only 10·7 per cent. The ratio of increase was considerably greater than in Georgia, which came nearest to South Carolina in the extent of the transformation which the land system has undergone, but which is not nearly as much confined to agriculture as is South Carolina. Of the 93,864 separate farms in the State, 46,645 were occupied by the owners, 21,974 were rented for a fixed money rental, and 25,245 were worked on shares. Classified according to size, there were 7,153 farms under 10 acres in extent, of which 1,202 were farmed by their owners, 4,464 paid a fixed money rental, and 1,467 were worked on shares; 12,519 farms of between 10 and 20 acres, of which 2,609 were farmed by owners, 5,096 for a money rental, and 4,814 on shares; 27,517 between 20 and 50 acres in extent, 5,914 of which were occupied by the owners, 8,443 paid a money rental, and 13,160 were worked on shares; 13,612 farms of between 50 and 100 acres, 8,750 of which were farmed by the owners, 1,866 for a fixed rent, and 2,996 on shares; 27,735 farms between 100 and 500 acres in extent, of which 23,358 were farmed by the owners, 1,811 for a money rental, and 2,566 on shares; and 5,328 farms over 500 acres in extent, 4,812 of which were farmed by the owners, 294 on a money rental, and 222 on shares.

The total value of farm-lands and improvements, implements, and live-stock, was reported in the three last decennial censuses as follows:

FARMING CAPITAL.	1830.	1870.	1860.
Farm lands and improvements.....	\$68,677,482	\$44,808,763	\$139,652,508
Implements and machinery.....	3,252,710	2,282,946	6,151,657
Live-stock.....	12,279,412	12,443,510	23,984,465

The acreage of improved and unimproved land at the different periods was as follows:

LAND.	1880.	1870.	1860.
Improved land and mead's.	4,173,354	3,010,539	4,572,060
Unimproved land	7,276,051	9,094,741	11,623,859

The increase in the area of improved land is largely due to the freedmen farmers, who, in their eagerness to commence for themselves, have settled on inferior and abandoned lands, and by the use of guano and phosphates rendered them productive.

The amount of wages paid for farm-labor decreased, according to the census returns, from \$7,404,297 in 1870 to \$5,981,616 in 1880. The total value of farm produce was \$41,967,746 in 1880, against \$41,909,402 in 1870. The number of horses, mules, and other domestic animals, reported in the three census years, was as follows:

LIVE-STOCK.	1880.	1870.	1860.
Horses of all ages.....	60,660	44,105	81,125
Mules and asses.....	67,005	41,327	56,446
Working-oxen.....	24,506	17,685	22,629
Milch-cows.....	139,323	98,693	163,988
Other cattle.....	199,243	132,925	320,209
Sheep.....	147,758	124,594*	233,509
Swine.....	628,057	395,999	965,779

The yield of some of the principal agricultural products as given by the census, was as follows:

PRODUCT.	1880.	1870.	1860.
Rice, lbs.....	62,943,537	32,304,325	119,100,628
Sorghum-sugar, lbs.....	8,225	.....	.....
Cane-sugar, hogsheads....	234	1,055	198
Sorghum-molasses, gallons	261,708	183,585	51,041
Cane-molasses, gallons....	152,307	436,882	.....
Milk sold or sent to factory, gallons.....	257,195	241,815	.....
Butter made on farms, lbs.	319,685	1,461,980	3,177,934
Cheese made on farms, lbs.	16,026	169	1,543
Potatoes, Irish, bushels...	144,942	83,252	226,785
Potatoes, sweet, bushels..	2,189,022	1,342,165	4,115,688
Peas and beans, bushels...	738,844	460,373	1,723,074
Honey, lbs.....	354,350	194,253	526,077
Wax, lbs.....	26,780	11,404	40,479
Wine, gallons.....	17,422	13,179	24,964

The census returns are defective in many respects, so that some of the above figures give a false view of the state of agriculture in some particulars. The cotton acreage in 1880 was 1,364,249, the crop of 1879-'80 amounted to 522,548 bales, as compared with 224,500 bales ten years before. The production has increased more than three times as fast as the population.

The rice-plantations of the Carolinas and Georgia, which before the war produced 175,000 tierces of 600 pounds, were destroyed and the cultivation discontinued during the war. It was commenced again in 1864-'65, in which year the product amounted to 4,000 tierces, and has been gradually extended until the crop of 1880-'81 reached 115,000 tierces. The Carolina product increased from 48,000 tierces in 1878-'79 to 63,750 in 1879-'80, and 69,000 in 1880-'81. The product of North Carolina, included in these reports, is comparatively small. The rice-lands of South Carolina, which are

not suitable for any other crop, give employment to thousands of the colored people, who were thrown upon their own resources after the war.

Phosphate-mining almost ceased in Charleston, and it was suspended altogether in Beaufort and Port Royal, in the autumn of 1879, in consequence of the cessation of the foreign demand, owing to the overstocking of the markets the previous year, and owing also to a decline in the domestic demand for phosphates. The home demand began immediately to revive, and became greater than before, owing to the growing consumption of the Northwestern States. The domestic consumption of Carolina rock was 107,348 tons, against 60,899 tons in 1879-'80. The English demand also became active again in the beginning of 1881, and the companies had more orders than they could fill at prices 35 or 40 per cent higher than those of the year preceeding. The first shipment of erude rock was made in 1867. There have been taken out altogether about 2,000,000 tons. The consumption and exports since 1875 have been as follows:

YEAR.	Foreign ports.	Domestic ports.	Consumed.	Total.
1875.....	70,546	32,560	19,684	122,790
1876.....	75,815	33,231	18,850	132,626
1877.....	102,767	47,053	13,400	163,220
1878.....	121,742	63,946	17,635	210,323
1879.....	119,566	60,899	18,900	199,365
1880.....	61,375	107,348	22,040	190,763
1881.....	34,993	107,170	31,000	173,163

The profits earned on the erude article are very large, the total cost of mining and washing, including the royalty of one dollar a ton on marine phosphate rock, not exceeding three dollars a ton, and the selling price averaging seven dollars or over. The manufacture of commercial fertilizers, the basis of which is the Carolina phosphate-rock, is even more profitable, and is one of the most flourishing branches of manufacture carried on in Southern cities. The product of the factories engaged in grinding the rock and preparing the fertilizers in and around Charleston was in 1881 over 100,000 tons, having doubled since 1878. The shipping price of these fertilizers ranges above twenty dollars a ton. The capital invested in South Carolina in mining and manufacturing phosphates is from \$8,000,000 to \$10,000,000. There are between 5,000 and 6,000 persons employed in the industry. In land-mining the rock is got out with picks and shovels. In the river-bed the excavation is done by hand picking, by dredging, and by tongs. The State has collected altogether \$700,000 of royalty on the marine or river phosphates. The thickness of the nodular stratum varies from a few inches to two and a half feet, the latter depth being very rarely observed. Ordinarily the thickness is from six to fifteen inches, and averages about eight. Where the deposit exceeds fifteen inches in thickness, the depth rarely extends beyond a limited area, and is generally

due to a local accumulation, or it is the result of the accidental superposition of a few large nodules. The yield per acre of clean and dry rock varies from 300 to 1,200 tons. The average yield of land-beds now worked is 700 to 800 tons to the acre. The magnitude of the deposits has been estimated as low as 5,000,000 tons and as high as 576,000,000 tons. The latest estimates are the largest, and it is supposed that the phosphate deposits already known are practically inexhaustible. The shipments to England are now made principally direct from Bull River instead of from Charleston; 86,000 tons were sent from Bull River to foreign ports, and 55,000 tons coastwise in 1881.

Following is the population of the State by counties in 1880, as compared with 1870:

COUNTIES.	1880.	1870.
Abbeville.....	40,815	31,129
Aiken *.....	23,112	.....
Anderson.....	33,612	24,049
Barnwell.....	39,857	37,724
Beaufort.....	30,176	34,359
Charleston.....	102,800	88,863
Chester.....	24,153	13,805
Chesterfield.....	16,345	10,584
Clarendon.....	19,190	14,038
Colleton.....	36,336	25,410
Darlington.....	34,485	26,243
Edgefield.....	45,344	42,486
Fairfield.....	27,765	19,888
Georgetown.....	19,618	16,161
Greenville.....	37,496	22,262
Hampton †.....	18,741	.....
Horry.....	15,574	10,721
Kershaw.....	21,533	11,754
Lancaster.....	16,903	12,087
Laurens.....	29,444	22,536
Lexington.....	18,534	12,988
Marion.....	34,107	22,160
Marlborough.....	20,598	11,814
Newberry.....	26,497	20,775
Oconee.....	16,256	10,536
Orangeburg.....	41,335	16,865
Pickens.....	14,339	10,269
Richland.....	28,573	23,025
Spartanburg.....	40,409	25,784
Sumter.....	37,037	25,263
Union.....	24,030	19,248
Williamsburg.....	24,110	15,439
York.....	30,713	24,286
The State.....	995,577	705,606

The centennial anniversary of the battle of Cowpens was commemorated by the unveiling of a statue of General Daniel H. Morgan at Spartanburg. The statue was executed in accordance with a resolution of Congress by J. Q. A. Ward, of New York, a well-known sculptor. The arrangements were not completed in time for holding the ceremonies on the anniversary day of the battle, January 17th,† and they were consequently deferred to May 11th. The statue is a bronze figure of the famous

* In 1871, from parts of Barnwell, Edgefield, Lexington, and Orangeburg.

† In 1873, from part of Beaufort.

‡ At the battle of Cowpens General Morgan won a decisive victory over Colonel Tarleton, who was sent by Cornwallis to drive him from his position between the Broad and Pacolet Rivers in December, 1780. The American force was retreating in order to occupy a safer position when overtaken by the British detachment, which was superior in numbers and much better equipped, at a wood known as Hannah's Cowpens, from the fact that a grazier, named Hannah, confined his cattle in it. Hence the name of the battle. The American riflemen finally put the British to flight.

partisan warrior, nine feet high, standing upon a lofty pedestal. He is in the fringed and moccasined dress of his rifle brigade. The statue was designed after a portrait by Colonel Trumbull. At the unveiling the ceremonies were conducted by Governor Hagood, and ex-Governor Hampton and Mr. Higginson delivered orations.

SPAIN (LAS ESPAÑAS), a kingdom of Southern Europe. Reigning sovereign, Alfonso XII (son of the ex-Queen Isabel II), born November 28, 1857; proclaimed King of Spain, at Madrid, December 31, 1874; assumed the government January 9, 1875; married January 23, 1878, to Princess María de las Mercedes (youngest daughter of the Duke de Montpensier), born June 24, 1860, died June 26, 1878; married in second nuptials November 29, 1879, to the Archduchess Maria Christina of Austria (daughter of the late Archduke Charles Ferdinand of Austria), born July 21, 1858. Issue of the second union is a daughter, María de las Mercedes, born September 11, 1880, Princess of Asturias.

The Council of Ministers of February 8, 1881, was (with some exceptions) composed as follows: President of the Council, Don Pedro Manuel Sagasta; Minister of Foreign Affairs, Don Antonio Aguilar, Marquis de la Vega de Armijo (March 18, 1880); Minister of Grace and Justice, Don Alfonso Martinez; Minister of Finance, Don Tomaro F. Camacho (March 18, 1881); Minister of the Interior, Don Francisco Victor Gonzalez (February 9, 1879); Minister of War, General A. Martinez Campos (February 9, 1881); Minister of Marine, Vice-Admiral Don F. de Pavía y Pavía; Minister of Commerce and Agriculture, Don S. L. Albareda; Minister of the Colonies, Don F. de Leon y Castillo. The Spanish Envoy Extraordinary and Minister Plenipotentiary to the United States is Don F. Barca. The United States Envoy Extraordinary and Minister Plenipotentiary to Spain is the Hon. Hannibal Hamlin (accredited July, 1881). The Spanish Consul-General at New York is Don Hipólito de Uriarte.

Spain, with an area (including the Balearic and the Canary Islands) of 195,774 square miles, is divided into forty-nine provinces, and has a population of 16,625,860, according to the census of December, 1877.

The rate of increase of population during the last hundred years does not exceed seventy per cent. In 1768 the population was estimated at 9,307,800; in 1789 it had reached 10,061,480; in 1797 it was more than 12,000,000; in 1820 it had fallen to 11,000,000; and in 1823 it had again risen to 12,000,000.

The five largest cities numbered, in 1877: Madrid, 397,690 inhabitants; Barcelona, 249,106; Valencia, 148,856; Seville, 133,938; Malaga, 115,882.

The colonial possessions of Spain, with their areas and populations (census of December, 1877), are as follows:

COLONIES.	Area in square miles.	Population.
AMERICA.		
Cuba	43,220	1,394,516
Porto Rico.....	3,550	646,362
Total in America.....	46,770	2,040,878
ASIA.		
Philippine Islands.....	65,100	4,319,269
Caroline Islands and Palaos.....	905	28,300
Marian Islands.....	420	5,610
Total in Asia.....	66,425	4,352,879
AFRICA.		
Fernando Po and Anabon.....	483	5,590
Grand total.....	113,678	6,399,347

The following tables will serve to show the amount and sources of the national revenue, and the amount and branches of the expenditure, as estimated in the budget for the fiscal year ending June 30, 1878:

REVENUE.	Pesetas.*
Direct taxes.....	287,200,000
Indirect taxes.....	209,000,000
Sale of national property.....	1,237,500
State monopolies.....	219,425,000
Colonial revenue.....	5,000,000
Exemption from military service.....	
Sundries.....	2,500,000
Total.....	736,000,000

EXPENDITURE.	Pesetas.
Civil list.....	9,500,000
Cortes.....	
National debt.....	249,725,000
Compensations for privileges.....	
Pensions.....	44,675,000
Presidency of the Council.....	1,250,000
Ministry of Foreign Affairs.....	3,250,000
“ of Finance.....	133,000,000
“ of Justice.....	43,225,000
“ of War.....	122,275,000
“ of Marine.....	26,475,000
“ of the Interior.....	40,800,000
“ of Commerce and Agriculture.....	48,900,000
“ of Colonies.....	1,317,500
Total.....	735,750,000

In the budgets for the years 1878-'79, 1879-'80, and 1880-'81, approved by Congress, the estimated revenue and expenditure stood, respectively, as follows:

YEARS.	Revenue.	Expenditure.
	Pesetas.	Pesetas.
1878-'79.....	750,630,202	758,177,865
1879-'80.....	778,478,383	806,590,940
1880-'81.....	791,650,792	836,651,193

The amount and main branches of the national debt were set down as follows, on January 1, 1880:

	Pesetas.
State debt.....	9,696,616,650
Special Treasury debt.....	1,005,564,500
Floating debt on December 1, 1879....	57,000,000
Total.....	10,759,181,000

On Jan. 1, 1881, the amount stood at. 12,523,742,862

On October 4, 1881, the Minister of Finance laid before the Cortes the financial plans for 1882-'83, including the supplementary budget

* The peseta equals 20 cents.

for the second half of 1881-'82. The reading of the statement, owing to the unusually large number of projects set forth (twenty-four in all), occupied nearly four hours. Señor Camacho has achieved a triumph, in presenting for the first time for many years in Spain a balanced budget. He commenced by saying that he was prepared to pay the additional one fourth per cent on the general debt, as provided by the law of 1876. After recapitulating various internal administrative economies and new indirect taxes, estimated to yield some 75,000,000 pesetas annually, by which the increased interest on the general debt, and the reduction of certain existing taxes, would be more than covered, he deprecated the mismanagement of his predecessors, and proceeded to the article relating to the conversion of the privileged debts. These, which include all debts except the external and internal three's, and the railway obligations, amounting in all to £330,000,000 sterling, are absorbed in an emission of £72,000,000 four-per-cent stock at 85, redeemable in forty years. He stated that the desire of the Government was to come to an immediate arrangement, on a basis of compensation and not of composition, with the bondholders, and for this purpose he asked the Cortes for authority to treat before January 1, 1882, when the existing law would give him such authority. The minister clearly intimated that the general conversion would be upon the basis of the privileged debt conversion now accomplished. With regard to the customs tariffs, a gradual reduction in conformity with the law of 1869—the Figuerola law—would be made, thus harmonizing the Catalonian interests with those of the rest of the country. The proposals of Señor Camacho met with almost universal approval, and telegrams from most of the commercial centers of the country, not excepting Catalonia, the province most affected by the free-trade principles indicated in the budget, proved that the impression throughout the country was most favorable. The decided improvement in Spanish credit materially affects certain private interests, reducing to reasonable limits the heavy rates of interest which bankers and capitalists obtained in negotiations with the State. The banking community, however, generally highly approved Señor Camacho's schemes, remarkable at once for a bold and prudent policy, which, it is freely admitted, even by the strongest opponents of the present Government, will permanently raise the standard of the national credit. The colonial representatives were enthusiastic in their eulogy of the change in the laws of *cabo-taje*, or shipping, between the Peninsula and the colonies, the result of which would, they thought, be to draw closer the union with the mother-country, and practically establish what has hitherto been but a political theory—the colonies as provinces of Spain.

On November 6th, at a meeting of the Budget Committee of the Cortes, under the

presidency of Señor Moret y Prendergast, the projects of law presented by Señor Camacho for the conversion of the privileged two per cents and the floating debt, and for the final settlement of the general debt, were unanimously approved. Commencing from the following week, immediately after the termination of the debate on the royal speech, the Cortes were to hold two sittings daily until all the measures relating to the finance administrative reforms and the budget should be disposed of. Señor Cosgayon, Finance Minister under a Liberal-Conservative Government, made (December 7th) a somewhat spiritless attack upon the proposals of the reorganization of Spanish finance and the plans of Señor Camacho, claiming for the Conservative party at all events a share of the credit for the improved financial position. Señor Camacho, in an energetic and convincing speech, which carried the entire House with him, defended and justified his schemes of reform, and on concluding was warmly congratulated by members of all shades. It appeared evident that the party spirit which usually runs so high in Spain would not be allowed to interfere in this vitally important question for the entire country. Señor Camacho might fairly count upon aid from all parties in order to render his measures successful. He stated that at the end of the year (1881) the floating debt would not exceed 175,000,000 pesetas. On December 13th was published a contract with the Bank of Spain for the conversion of the amortizable privileged debts in an emission of a four-per-cent stock to the amount of £72,000,000 sterling, authorized under Article I of the law of the 9th of the same month. The most important clause, as affecting the foreign holders of the two-per-cent stock, was that the Finance Minister recognized their rights in the substantial form of giving an additional two per cent beyond the price of 50 fixed for the interior, thus compensating them for their loss by exchange, and bringing up the value slightly in excess of the difference which existed in their favor at the time of the original emission. Señor Camacho has sought and obtained a solution of this delicate point in an equitable if not liberal sense, leaving at the same time perfect freedom of action to the foreign creditors to accept or not the proposition. Among the holders of the foreign two per cents at Madrid, the unexpected concession was eagerly accepted, and Señor Camacho, by his regard to strict equity, seemed determined to raise the Spanish credit to a higher level than ever before reached. The next operation to complete the minister's scheme for the reform of the national debts related to the three-per-cent general debt, which was to be proceeded with immediately.

In the budget of Cuba for 1879 the receipts were estimated at \$60,132,638, and the expenditure at \$56,764,688.

The peace strength of the Spanish army for

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1879-'80 was fixed by law at 90,000, as follows: 59,993 foot; 12,783 horse; 9,955 artillery; and 4,168 engineers. In time of war the strength is to be raised to 480,000. The strength of the army for Cuba was fixed at 38,000; for the Philippines at 15,500; and for Porto Rico at 3,346.

The fleet in 1879 consisted of 121 steamers, of 21,576 horse-power, with 525 guns.

The imports in 1879 were of the total value of 443,300,000 pesetas, and the exports 503,900,000 pesetas.

The merchant navy on January 1, 1880, consisted of 1,578 sailing-vessels, aggregating 325,036 tons, and 226 steamers, with an aggregate of 135,814 tons; total, 1,804 vessels and 460,850 tons.

The length of railroads in operation on January 1, 1878, was 3,875 miles.

The number of post-offices in 1880 was 2,536; the number of letters sent, 81,422,000; postal-cards, 1,045,000; packages of printed matter and samples, 5,703,000; newspapers, 40,247,000; total, 128,417,000.

The length of the Government telegraph lines in 1879 was 9,920 miles, and that of the wires 25,831 miles. The number of Government stations was 349, and of private and railroad stations 91. The number of inland dispatches was 1,334,963; of foreign dispatches, 377,145; of official dispatches, 300,640; total, 2,012,748 dispatches.

The exports from the Island of Cuba for 1878 were of the value of \$70,881,525. The principal articles exported were as follows: Sugar, \$53,830,931; molasses, \$2,734,094; cigars, \$7,294,224; tobacco, \$5,485,163.

The number of vessels entered at the port of Havana in 1880 was as follows:

FLAGS.	No. of vessels.	Tons.
United States.....	663	493,550
Spanish.....	491	291,481
British.....	151	120,180
German.....	36	35,787
French.....	33	56,839
Norwegian.....	39	15,212
Others.....	13	7,582
Total.....	1,426	1,020,131

The length of railways in operation on the island is 863 miles. The length of telegraph lines in 1880 was 1,127 miles, with 187 stations.

Among the American productions most in demand in Cuba are those hereafter transcribed from a dispatch of United States Consul Roosevelt,* to the Department of State, under date February 1, 1881:

Agricultural Implements.—Plows, cultivators, rakes, hoes, forks, coffee-cleaners, machetes or cane-knives, sausage-meat cutters, bagazo-spreaders, sugar-mills, portable railroads, sheep-shears, corn-shellors, spades, and shovels.

Sugar-Machines.—Mills, centrifugal apparatus, vacuum-pans, stampers for hogsheds and box sugars, fire-brick.

* At the port of Matanzas.

Glassware.—Lamps for petroleum; goblets, tumblers, lightning-rod insulators, glass tubes, vases, and window-panes.

Domestic Utensils.—All sorts of hardware, such as pots, pans, cups, stoves, coffee and tea pots, sieves, mortars and pestles, etc.; crockery, tubes, buckets, dippers, coffee and pepper mills.

Cutlery.—Knives, forks, spoons, carving-knives, and potato-knives.

Hardware.—All sorts of carpenter's and builder's tools, planing-machines, molding-machines, machinery for making windows and shutters, hand-drills or foot-power drills, turning and mortising machines, band-saws, hand-saws, chisels, scroll-saws of the large kind, carving instruments, etc.; paints, especially fire-proof paints, putty, lubricating and paint oils.

Clothing.—Shirting, calicoes, lighter classes of woolen goods; shoes, if made according to the Cuban pattern—sharp points, high instep, and narrow; buttons, thread, linings, etc.

Soaps.—The cheaper sorts, and small importations of fine.

Stationery of all sorts.

Locomotives and all sorts of railroad supplies.

Sewing-machines, hand and treadle.

In the royal speech, read at the opening of the Cortes, on December 30, 1880, was pointed out the progress achieved in the country from the time of the accession of King Alfonso XII, and on January 19, 1881, the debate on that speech was concluded. Señor Sagasta, the leader of the Liberal-Dynastic party, in an intemperate but telling speech, attacked the Government on all points of their policy, and accused Señor Cánovas of remaining in power for his own self-interest at the sacrifice of the country. He drew a strong argument from English politics, where patriotism and liberty, he said, marked the policy of public men. Touching the question of finance, he said that increased taxation was impossible in the present overburdened condition of the people, and that the Finance Minister, in his project for the arrangement of the debt, had contradicted all his arguments of last year. Señor Cánovas replied that he owed his power, not to military influences, but to the will of the monarch, and that he would remain in power as long as he retained the confidence of the crown and of the majority of the Cortes. The House divided. For the Government 209 votes were recorded, and 65 against it. The opposition to Señor Cánova's policy persisted, however, and gained such a majority as to lead to the dissolution of the Cortes by a royal decree, under date February 9th.

On September 20th were inaugurated the first Cortes under the Liberal-Dynastic Government of Señor Sagasta. The speech read by King Alfonso on that occasion was noted as an expression of the essential spirit of liberalism. His Majesty began by congratulating himself and the newly elected representatives of the country on the confidence which they had inspired, and invited them to improve the present situation and develop those opportunities which the future so strongly promised. He heartily desired the definitive alliance of the two elements which compose the political

community in Spain by giving satisfaction to the one, with the traditional symbol of monarchy, and tranquillizing the other with respect to the due development of liberal ideas. "Spain enjoys to-day the benefit of universal peace. The relations with the Holy See and with the foreign powers are most cordial, and the satisfactory result of the negotiations* with the French Republic on the Saida question once more proves the firm friendship existing between the two countries. The preferential attention of the Government will be given to the negotiations for commercial treaties pending with Great Britain, France, and Venezuela, and the necessary steps will be taken to prepare new treaties with the Spanish-American republics. Early attention will be called to the codification of the general laws of the country, to the reorganization of the army, and to an increase of the material of the navy, with a view to rendering that service worthy of its glorious and ancient traditions. Public works and public instruction will by no means be left without attention. Cuba and Porto Rico now enjoy the same civil rights as their brethren of the Peninsula, and the abolition of the tobacco monopoly in the Philippines has put an end to an odious servitude, and will, no doubt, open up a new era of prosperity to the [Philippine] Archipelago."

Referring to the royal remark concerning cordial relations with the foreign powers, it may not be inopportune here to transcribe the views of a correspondent of the London "Times" on the subject of the feeling toward Spain. "As for the singular rumor of Germany seeking to produce estrangement between France and Spain," writes that correspondent under date June 30th, "the moment would be ill-chosen for such an idea. Never, as has been shown by the tone of the Spanish press and nation during the Tunis affair, have France and Spain been more cordial friends. It is even affirmed that M. Jules Ferry, to whom his friends attribute somewhat broad views on international policy, has spoken of the readiness of France to embrace an opportunity of introducing Spain into the European concert. Such an act would certainly be warmly appreciated by a nation whose pride is hurt at its exclusion from the great councils of Europe, and which deserves encouragement in its efforts to recover lost ground. Her young King is popular, and has shown himself a liberal sovereign; her ambassadors are men who earn respect and esteem, her old strifes seem to be allayed, her finances and resources are reviving, and there will be universal congratulation when her representatives again take their seats among those of the great powers."

A split, long foreshadowed, in the Republican party became an accomplished fact in November, and, with the secession of Señores Cristino Martos, Montero Rios, and Echegaray,

* Respecting the indemnities to be paid by the French Government to the Spanish victims of Saida.

and other eminent adherents of the then fast-collapsing Revolutionary party led by Señor Ruiz Zorrilla, there remained but an insignificant fraction, "incapable of doing much mischief." It was regarded as probable that the Martos section would unite with that of Señor Castelar, whose policy "only supports the idea of a republic if it can be obtained by peaceful and legitimate means."

The speech from the throne was voted upon November 16th (after a debate of three weeks), by a majority of 247 against 33, the Democratic-Monarchical party having abstained from voting. The Ministers of Justice and Foreign Affairs defended their departments against the charges made by Señores Cánovas, Moret, and Castelar. Señor Sagasta, on the part of the Government, summed up on the entire discussion. He asserted that the country was happier and far more prosperous under the present Liberal Government than under the previous Conservative Government. He particularly pointed out the improvement of credit at home and abroad. He said that his policy was one of conciliation, and intended to attract to a constitutional monarchy all the diverse political elements which had hitherto distracted the country, and he congratulated himself on the success of his efforts so far. He especially alluded to the formation of the Democratic-Monarchical party, under Señor Moret, which he welcomed with open arms, and the benevolent attitude of the Republicans—a contrast to their hostility to the Conservatives. He shortened his speech so that he might not delay the introduction of Señor Camacho's plans of financial reforms, which required immediate discussion and settlement. On Señor Cánovas rising to speak a third time, an impatient fraction of the majority refused to hear him, and the vote was taken amid great noise and confusion.

A question by a Cuban Senator as to negotiations between the Spanish and British Governments for the return of Gibraltar to Spain, was replied to by the Marquis de la Vega de Armijo, who said that "the Government would act as the good of the country and the maintenance of amicable relations with friendly nations required." Replying to another Senator respecting the entry of the French troops into Morocco, the Foreign Minister stated that the point at which the French had arrived was debatable ground, some uncertainty existing as to whether it belonged to Algeria or Morocco, but "in any case, the Government would not neglect Spanish interests."

Animated and prolonged debates in the Cortes were provoked by the publication, in the London "Gazette," of a notice respecting the British settlement in Borneo, to which territory Spain urged a claim, based on a treaty with the Sultan Sooloo. In a Spanish note to the British Government, the grounds of that claim were recapitulated, and reliance expressed that England would do nothing to prejudice Spanish rights. Señor Cañamarque, a Liberal

deputy, imputed to the laches of the late Conservative Government the present position of the English Company in North Borneo. The Marquis de la Vega de Armijo, replying on behalf of the Government, declined to enter into the question when negotiations were still pending. Señor Francisco Silvela, ex-Minister of the Interior in the previous Government, defended Señor Collantes and his brother, the late Foreign Minister, from the charges made by Señor Cañamarque. He considered that the recognition of the rights of Spain over Jolo obtained in the period referred to from England and Germany was greatly to the credit and not to the discredit of the Conservative Government. He pointed out that, according to modern international law, it was not sufficient to take nominal possession of barbarous countries in the name of any civilized state, and he quoted the authorities and practice to show that jurisdiction must be actually exercised, directly or indirectly, by the states desirous to make good their title. Señor Cánovas, summing up the debate on the part of the Conservative party, indorsed the remarks of Señor Silvela, adding that it was impossible to deny the English Government's right to the course adopted, and while he maintained the right of every nation, after discussion and investigation, to decide upon her own course of action, suited to the best interests of her subjects, he deprecated any step in this question tending to lead the Government into difficulties.

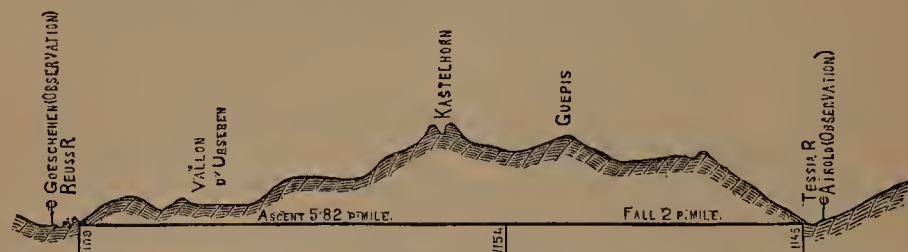
The centenary of Calderon de la Barca, the "Shakespeare of Spain," was celebrated at Madrid with great magnificence on May 22d. Seventy thousand visitors hurried to the capital to witness the festivities—delegates from home and foreign corporations, including the Mayor of Rome, and the representative of the municipality of Paris.

On October 11th the investiture of King Alfonso with the Order of the Garter took place at the Royal Palace in Madrid. The investiture was performed with full ceremonies, for the first time in the case of a king of Spain for the last three hundred years.

ST. GOTHARD RAILWAY AND TUNNEL. The great tunnel of the St. Gothard Railway was officially opened for the passage of local trains during the last days of 1881. The railway of which the tunnel will form a part is designed to connect the North Sea with the Mediterranean by the most direct route, and passes through the chain of the Alps at a central point. It has been built by a Swiss company, assisted by German and Italian capital, as a third transalpine route, and to preserve for Switzerland its share of the traffic between North European and Italian ports, which otherwise might be diverted from that country by the lines through the Mont Cenis Tunnel and the Brenner Pass of the Tyrol. The tunnel has been pronounced by engineers one of the greatest works, if not the greatest one, ever yet executed by man. It is about

14,900 metres or nearly nine miles long, extending from Goeschenen, in the Canton Uri, 1,109 metres or 3,604 feet above the sea, on the north, to Airolo, in the Canton Tessin, 1,145 metres or 3,721 feet above the sea, on the south. The work has been eight years in execution, and its progress has been attended with some very skillful feats of engineering, and the invention and application of important improvements in the machinery for carrying on

extensive borings in rocks. The work was begun under the direction of M. Louis Favre, engineer, who died during its progress, on July 19, 1869, after having adopted the methods and machinery the employment of which insured its successful execution. The operations at St. Gothard were begun under the advantage of the possession of the experience, knowledge, and skill that had been gained in constructing the tunnel of Mont Cenis.



PROFILE ALONG THE LENGTH OF THE TUNNEL.

The preliminary surveys were attended by difficulties which could be overcome only through the application of rare scientific ingenuity. The engineers of the tunnel of Mont Cenis had a point at the highest part of the ground from which they could see at once objects indicating the positions of both openings. No such advantage existed at St. Gothard; and some of the summits in the way were so steep and so high that it was impracticable to attempt any direct tracing of the line of the tunnel over the mountain. The relative positions of the two openings and the direction of the tunnel had then to be calculated indirectly, from triangulations. The directions and levels were ascertained in this method; and observatories were then placed at the tunnel-mouths to serve as direction-points for the miners. At Goeschenen it was necessary, in order to get a long enough line of sight, to make borings of considerable length through two projecting rocks. The surveys, originally made by M. Gelpke, were verified by a second series of triangulations made in 1874, by another engineer, M. Koppe, on a different system. M. Gelpke had based his surveys on summits in the neighborhood, and had used triangles of only moderate size. M. Koppe made his triangles as large as possible, so that he might connect the two openings of the tunnel by a minimum number of intermediary stations. The two triangulations gave results agreeing within two seconds of direction with each other. M. Koppe also verified his survey practically by projecting a line from the opening at Airolo toward a mast which he set up at the highest attainable point along the axis of the tunnel. Since he was not able to go toward this point from Goeschenen, he went backward in the direction of the continuation of the tunnel-axis, ascending the flanks of the mountain till he could observe the mast. Then, having directed his glass toward Goeschenen, he raised it vertically to the level of the mast, when he saw

the pole almost in the center of his field of vision. The direction within the tunnel was verified by means of field-glasses fixed within the observatories, so far as they would answer, then by means of lamps hung on the line of the axis of the tunnel, and was verified from the observatories two or three times a year.

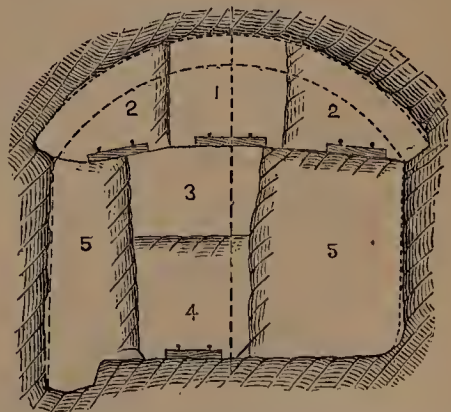
The drilling of the rocks was done with machines worked by compressed air, similar to those which had been used at Mont Cenis, but having many improvements over them. Several kinds of machines moved by compressed air have been invented, each of which bears the name of its inventor. The one used in the present work was that of M. Colladon. In these machines the power is applied to work a drill in the same manner as the hand-drill is worked by miners, but with vastly more force, and a speed of five or six hundred or more blows a minute, instead of the fifty or sixty blows a minute to which the capacity of the hand-drill is limited. The drill is fixed upon a piston which is driven by compressed air. It strikes the rock, is drawn back, and strikes again, having been turned a little in the interval, so that its edge shall not strike exactly in the mark made by the previous blow. A jet of water may be thrown into the drill-hole to remove the chips and prevent too great heating of the drill. Several drills may be mounted upon the same supporting apparatus, and may be directed, under inclinations varied according to circumstances or the wish of the engineer, against the same head of rock.

A different perforator, and a more novel one, called the Brandt machine, which was worked by compressed water, was used in one of the tunnels on the same line, though not in the main tunnel. In this machine water, which is given a pressure of a hundred atmospheres, is employed instead of air, with the lighter pressure of only one or two atmospheres, to force a large hollow boring-tool, eight centimetres or nearly three and a half inches in

diameter, into the rock. This tool makes only three or four turns a minute in the rock, and is worked without the noise, without the loss of force at every blow, and without the active movement of air and spontaneous ventilation that accompany the use of the compressed-air drill. In the Brandt system, the supporting apparatus is as ingenious as the machine itself, and is so disposed against the face of the rock as to present a solid and efficient resistance to the strong pressures that are brought to bear upon it. Several perforators may be mounted upon the same supporting apparatus. The Brandt engine has given satisfactory service, but the employment of compressed air seems at present to be regarded with more favor than that of compressed water. The compressed-air engine was used in the construction of the St. Gothard Tunnel for the three purposes of driving the drilling-machines, of securing a full ventilation of the chambers, and of propelling the locomotive-engines that were employed to carry away the broken rocks and rubbish. Steam could not be used in the tunnel, for the smoke and vapor would have added to the noxious properties of an atmosphere that was already hardly supportable. At first, special compressed-air engines were built to draw the construction-trains. A simple arrangement was afterward adopted, by which the machinery of ordinary locomotives was fitted to receive and be moved by compressed air while within the tunnel, and changed so as to take on steam immediately on reaching the outside.

The power by which air was compressed and the force necessary to move the machines was transmitted to them was obtained from the natural sources of the streams near either end of the tunnel. The river Reuss afforded an abundant supply with a strong fall at the Goeschenen end; at the Airolo end the main supply, drawn from the brook Tremola, was supplemented by a more regular but less powerful current drawn from the river Ticino. The force of the stream was applied to turn four turbine-wheels which made three hundred revolutions in a minute, and exerted a force of about two hundred horse-power. These wheels were made to turn a horizontal axis with cranks revolving eighty-five times a minute, which kept the compressors in operation. The air, which was subjected to a compression of from four to eight atmospheres, became very hot, and had to be cooled by special applications of water kept circulating in cold currents around the pumps and in the pistons and piston-rods, and by injections of fine spray. After being further cooled and freed from water in suspension by passing it through reservoirs, the compressed air was conducted into the tunnel by tubes which were of considerable size at the beginning of the course, but were diminished to correspond with the diminishing supply of air as the work was advanced. The capacity of the compressors may be measured by the fact

that about eighty thousand cubic metres of air were introduced into the chambers at either end of the tunnel every day. The provisions for supplying the compressed air to the chambers, requiring a system of pipes five thousand metres or more than sixteen thousand feet long for each gallery, gave an opportunity for the institution of some interesting experiments relative to the flow of compressed air through long metallic pipes. The loss of the charge in the pipes was a factor of great importance. The absolute pressure of the air, which was equivalent to six and a half atmospheres at the mouth of the tunnel at Goeschenen, diminished as the conduits were carried along during the progress of the work, till finally it was no more than one atmosphere and an eighth at the end of the excavation. At Airolo it was necessary, in order to counteract the waste, to enlarge the diameter of the perforators, and to expend a considerably larger volume of air to perform the same work. The boring of the tunnel was begun at Airolo on the 18th of September, and at Goeschenen on the 9th of December, 1872, and was continued uninterruptedly till the 29th of February, 1880, when a junction of the two galleries was effected at a point only two hundred and eighty-nine metres south of the center of the work. The extreme errors in the direction of the two galleries amounted to not more than eight inches lateral and four inches vertical. The borings were carried on by first cutting a chamber, or advance-gallery, about eight feet square, at the top of the intended excavation. This chamber was then enlarged on the right and left, after which the arches of the roof were built, and a trench nearly ten feet wide was dug to the level of the base of the tunnel. This was called the "Cunette de Strosse." All the matter that re-



SYSTEM OF EXCAVATION: 1, advance gallery; 2, side-workings; 3, 4, "Cunette de Strosse"; 5, "Strosse."

mained to the right and the left of the intended excavation, called the "Strosse," was next removed. Thus most of the digging was done downward, and under conditions that presented superior advantages. The blasting was done chiefly with dynamite, and it has been calculated that, taking the work all through, each

kilogramme of dynamite that was used corresponded with a cubic metre of rock that was removed. The work was interfered with at times by the infiltration of water, which, however, did not produce the inconvenience with dynamite that it would have done if powder had been depended upon; by rocks of exceptional hardness, and by a bed of disintegrating rocks about twenty-six hundred metres from the north end of the tunnel, the danger from which, after the ordinary propping with timbers, with iron girders, and with blocks of stone, had failed, was finally overcome by means of an arch of masonry three metres or ten feet thick.

M. Colladon, the inventor of the compressed-air motor that was used, has informed the French Academy of Sciences that the most efficacious means employed to speed the work of excavation were the diking of the torrents and the application of water collected in aqueducts as a moving power to turbine-wheels requiring high falls; the adoption of air-compressors, that worked with great rapidity; the cooling of the air in the compressors at the moment of compression, by the injection of water in a fine spray; the use of dynamite; and the plan, which was followed from the beginning, of carrying on the excavations from the top of the tunnel down. By the aid of these improved methods the advance through the rocks was made with double the speed that the engineers in charge had been able to attain in boring the tunnel of Mont Cenis. It is estimated that, notwithstanding its greater length, the tunnel of St. Gothard will have cost, when completed, considerably less than that of Mont Cenis.

The great tunnel is not the only extraordinary work of engineering that distinguishes the St. Gothard Railway. Fifty other tunnels occur on the line from the Lake of Zug to the Italian frontier, a distance of two hundred kilometres, or about one hundred and twenty miles, along the wild valleys of the Reuss and the Tessin Rivers. These tunnels have a total length of twenty kilometres, and some of them are singly as long as fifteen hundred or two thousand metres. Seven of them are of a form peculiar to this road, being spiral, or doubled upon themselves in the shape of a serew. Between Brunnen and Fluellen, where it skirts the Lake of the Four Cantons, a distance of twelve kilometres, the road is subterranean for 5,256 metres, or nearly half the way. The road then follows the valley of the Reuss to the mouth of the grand tunnel. At Erstfeld, the station for the locomotives of the mountain line, begin, with the ascent, the works that give the new road a special originality. Between Erstfeld and Goesehenen are sixteen tunnels, occupying more than seven kilometres in a distance of twenty-nine kilometres. Four of these tunnels are more than a kilometre in length, and one only of them is straight. The other three tunnels are helio-

coidal or spiral, receiving a shape which is made necessary by the shape and narrowness of the valley of the Reuss. Generally, abrupt ascents in railroads are overcome by making long curves so proportioned in length to the height to be surmounted that the grade need not be steeper than a common locomotive is able to ascend. This is not possible here, for the valley does not afford sufficient space, and there are no lateral valleys. The road is therefore doubled upon itself, like a winding stair, and the difference in grade is surmounted within a tunnel. The St. Gothard Railway thus rises, in the neighborhood of Wasen, one hundred and thirty-six metres, by means of the three spiral tunnels of Pfaffensprung (1,460 metres), Wattingen (1,090 metres), and Leggistein (1,095 metres), and follows on the grade prescribed by the international commission of the interested states, the valley of the Reuss. The curve of the spirals is of four hundred metres radius, and the grade under ground is from .023 metre to .026 metre to the metre. Between Airolo and Lugano on Lago Maggiore, on the other side of the great tunnel, are four other spiral tunnels, in all of which the curves return upon each other. Between Dazio and Faido are the returning spirals of Freggio and Prato, and farther on, between Lavorio and Giornico, are the returning spirals of Piano-Tondo and Travi, better known as the tunnels of Biaschina. Each of these four great heliocoidal tunnels is about fifteen hundred metres long, and the sharpest of their curves has a radius of three hundred metres. The twenty-six tunnels of this southern division have a total length of eight kilometres, or about one sixth of the whole length of this part of the line. To these great works might be added forty-five principal bridges, having spans of from twenty-five to seventy-seven metres; nine viaducts; seven galleries with special protection against avalanches and floods; and the great cut, 2,240 metres long, between the tunnel of Stalvedro and the bridge of Sordo, from which 215,000 cubic metres of materials have been removed.

STANLEY, ARTHUR PENRHYN, D. D., LL. D., Dean of Westminster, and a well-known writer, was born at Alderley, Cheshire, England, December 13, 1815; died at the Deanery, London, July 18, 1881. He was the second son of Edward Stanley, Bishop of Norwich, and nephew of the first Baron Stanley of Alderley. The Dean was very proud of the Welsh blood in his veins. "If there is any brilliancy and vivacity in my family," he said to an American friend, "I attribute it to the fact that my grandfather, a Cheshire squire, had the good sense to marry a bright, mercurial Welsh woman, from whom we have inherited a share of the Celtic fire." This grandmother, wife of Sir John Thomas Stanley, was Mary, daughter of Hugh Owen, of Penrhyn. At the age of fourteen, he entered the famous Rugby School, and remained there five years. During this time he

was a favorite pupil and enjoyed the especial friendship of Dr. Thomas Arnold—a fact which may, without doubt, be assumed to have had close connection with the broadness and liberality of his thought and doctrines as a clergyman of the Church of England. Later in life Stanley manifested his love for his old master in a “Life of Arnold,” breathing in every chapter the old Rugby spirit of protest against despotism, and deep sympathy with every phase of progress and every movement to aid and elevate mankind. In 1837, being at that time no more than twenty-two years of age, he won a first class in classics at Balliol College, Oxford, having already gained the Newdegate prize for an English poem on the subject of the gypsies. He also carried off the Ireland scholarship, and became a Fellow of University College. Two years later he received the Latin essay prize, and in 1840 the English essay prize, and the theological prizes were also showered upon him. Great as were these distinctions for so young a man, it seemed at that time as if Stanley were to follow the course of many a recluse scholar doomed to the studious leisure and comparative obscurity of an ancient seat of learning. Although Arthur Stanley continued for twelve years to act as a tutor in University College, nevertheless, in after-life he became a man of society, and, in a certain sense, of the world. He was appointed a Select Preacher in 1845-’46, and Secretary of the Oxford University Commission from 1850-’52. Other honorable appointments followed in the order named: Canon of Canterbury, 1851-’58; Regius Professor of Ecclesiastical History at Oxford, 1856-’64; Canon of Christ Church and Chaplain to the Bishop of London, 1858-’64; besides being Honorary Chaplain to the Queen and the Prince of Wales, and Deputy Clerk of the Closet. In 1863 he declined the appointment of Archbishop of Dublin, and early in the following year was made Dean of Westminster, a position he occupied throughout the remainder of his life, his associate therein being for a time the late Canon Kingsley. The abbey and everything connected with it became a passion with Stanley. He studied its antiquities and dilated upon them, restored, renovated, and in various ways beautified that ancient building to the best of his great ability. In 1872 he was a second time chosen Select Preacher to the University, and in March, 1875, he was installed Lord Rector of the University of St. Andrews. His powerful and sympathetic address delivered on that occasion was one of his happiest efforts, and is still fresh in the public recollection. In 1876 he met with the great sorrow of his life in the loss of his wife, Lady Augusta Bruce, daughter of the Earl of Elgin, to whom he was married in 1862. She was an intimate friend of the Queen, and her death was the occasion for extraordinary manifestations of regard for her memory and sympathy for her bereaved husband, both in Great Britain and the United States. Never,

perhaps, was any woman borne to her grave amid such a profusion of panegyric, and never before did any man receive wider and more sincere sympathy than was extended to the afflicted Dean by all classes, from the Queen down to the daily laborer. In 1878 he visited the United States in search of health and rest, and was greeted everywhere, not only with the respect his genius commanded, but with warm personal friendship. While in this country he frequently preached in various pulpits, and he was as intimate with Drs. Adams and Schaff, as with the late Dr. Washburne and the Rev. Phillips Brooks, of his own religious faith. He addressed the students of the Union Theological Seminary in this city, and appeared in the pulpits of Calvary, Grace, and Trinity Churches.

At the New York Century Club reception, in response to the address of welcome by the Rev. Dr. William Adams, Dean Stanley spoke in part as follows, on his personal impressions of the New World:

There are two impressions which are fixed upon my mind as to the leading characteristics of the people among whom I have passed, as the almanac informs me, but two short months. Everything seems to be fermenting and growing, and yet I have been no farther West than Niagara. As I stood in the moonlight at that great work and ceaseless labor of nature, and saw it for the first time, it looked to me like the incessant activity and tireless, restless, beating whirlpool of life and existence here. In the everlasting tumult of the abyss I saw the undying push and activity of America. In the mist-cloud that rose in the moonlight I saw images somehow of American destiny. In the silver column that rose silent into the night I saw the watchful power that should be the pillar of light to the posterity of each nation. The other impression I have had very strongly forced upon me is the ever-present hopefulness and buoyancy of the people. Ready ever to step forward and try again what had been abandoned as beyond the grasp of the older people of Europe, they work night and day to supersede these progressions by new devices and new methods.

This will probably be my last visit to this Western World, and I have likened it to Wordsworth’s Yarrow unvisited, Yarrow visited, and Yarrow revisited. The third stage would not, in all probability, be a full fruition; but, if it was, I should come to a land of kindly homes, where I had been treated as the best and with the best. But even were it never to be my pleasure to repeat this visit, I can recall it in the cordial greetings of my American friends abroad. I have a fervent hope and abiding belief that the bond which fastens America to the mother-land will never be broken, but continue and grow even stronger.

Near the shores of Lake George, the Loch Katrine of America, I saw an oak and a maple so joined that they seemed like one tree. I am reminded by this of the old oak of England, with its gnarled and twisted root, and the young shoot of America, with glorious promise for the future. May the union of the two trees on one root be always typical of the union of America and England!

The Dean, always cordial to Americans, was, if possible, still more so after his visit to this country. To the writer, who was in London in the summer of 1879, he expressed his gratitude for the great kindness everywhere extended to him in the United States, and his belief in the magnificent future of our country.

Under his personal guidance the writer spent several hours in the ancient abbey, while he discoursed on its history as we passed from point to point, and through some of the curious ins and outs of the Deanery, and other surroundings of Westminster. The Dean was a great favorite with the royal family, and was always ready to bring about an informal interview when the Queen wished to meet a person of literary distinction. In was in that way that she met Thomas Carlyle at Stanley's residence, when the sturdy Scotchman amazed the courtiers by violating royal etiquette so far as to inquire as to her Majesty's health, and to invite her to be seated, instantly setting the Queen an example! When the monument to the late Prince Imperial was proposed, Dean Stanley—acting, as it is well understood, under court influence—readily offered a fine site for the memorial in Westminster Abbey. The Dean stoutly and bravely withstood the widely spread and popular outcry which this act caused, but, when the House of Commons declared its disapproval, he promptly bowed to its decision.

Early in July, 1881, the Dean was taken seriously ill, and, when the end came, his last audible words to the Archbishop of Canterbury were, "I have faithfully labored, amid many frailties and much weakness, to make Westminster Abbey the great center of religious and national life in a truly liberal spirit." The funeral of Dean Stanley brought together one of the most remarkable concourses of people that has ever assembled within the historic abbey, where he was buried July 25th, by the side of his wife. The pall-bearers were the Duke of Westminster, representing the House of Lords; the Bishop of Exeter, the Episcopate; the House of Commons by William E. Forster for the Government, and by William H. Smith for the Opposition; the Universities by Dr. Jowett, the Master of Balliol, for Oxford, and by Canon Westcott for Cambridge; English Nonconformity by Dr. John Stoughton; the Presbyterians by Dr. Storey; Science by the President of the Royal Society, and Literature by Matthew Arnold. Among the mourners and friends present were men of all creeds, including Cardinals Manning and Newman. Three memorial sermons were preached in Westminster on the Sunday after the Dean's death, and in St. Paul's Cathedral, and, indeed, throughout the kingdom, his death was the general theme on that day. * A memorial window is to be erected, by American subscriptions, in Westminster Abbey, and several similar projects are being carried out in Great Britain by the Dean's troops of friends and admirers.

Dean Stanley was a liberal and highly cultivated theologian, a graphic and graceful writer on every conceivable subject properly belonging to literature, and above all a powerful and popular preacher. For the last twenty years of his life he occupied a large place in the history of our times, and exercised an influence

on religious thought and feeling which it is impossible to measure now. It has been alleged by a very few detractors that Dean Stanley was too much of a courtier, but this is only an ungrateful slight on the urbanity of one whose charity was wide as his learning, and who devoted the whole of his busy and energetic life to the promotion of true religion. It was, perhaps, the brilliant and varied play of his many-sided mind that prevented the late Dean from achieving the very highest place in any one of those departments to which he, by turns, addressed his acute and comprehensive intellect. It has been truly said that sentiment often stood in the way of his critical judgment. His writings generally, like his eloquent and richly-colored sermons, evince a potent attachment to historic places, to wells where Abraham may have rested, to sands that crumbled beneath the feet of the apostles, and to walls where Becket ministered. This was, doubtless, one cause why he enjoyed so early such a wide-reaching popularity. Dean Stanley's principal works are "The Life and Correspondence of Thomas Arnold, D.D.," one of the very best pieces of biography of our day, which has passed through various editions, American and English, and has been translated into several foreign languages. It was first published in 1844. "Sinai and Palestine, in Connection with their History," appeared in 1856, the Dean having made a tour of these countries three years previous, and in 1862 visited them a second time, in company with the Prince of Wales. This octavo volume, in every respect superior to any recent work on the Holy Land, was followed, in 1863, by "Sermons preached before the Prince of Wales during his Tour in the East, with Descriptions of Places Visited." In 1867 appeared "Historical Memorials of Westminster Abbey," a carefully prepared work, which has since passed through several revised editions, accompanied, in 1870, by a supplementary volume. In the same year there was published "Scripture Portraits and other Miscellanies, collected from the Published Writings of A. P. Stanley," an octavo volume, which has since passed through three editions. Dean Stanley published several volumes of sermons, and was a frequent contributor to the "Edinburgh" and "Quarterly" Reviews, "Macmillan's Magazine," and "Good Words," and supplied a valuable series of biblical biographies to Dr. William Smith's "Dictionary of the Bible." His latest literary work was performed as a member of the Association for the Revision of the Bible, and his last clerical act was in defense of the new translation. No better characterization of the late Dean of Westminster has appeared than is contained in the following paragraph, from the pen of an English writer:

His greatest successes were not in the pulpit; and yet, to hear him at an afternoon service in Westminster Abbey, or on some such special occasion as "Intercession Day," or a service with children, was some-

thing never to be forgotten. Nothing more truly tender or catholic, or fitted to make bad men good and good men better, ever fell upon the ear of a congregation. In fact, he was everywhere the same gentle "Elisha, the prophet of peace"—the Dean not so much of Westminster as of London society; to use his own words respecting the Old Testament seer we have named, "carrying on his work through winning arts and healing acts and words of peaceful intercourse, in the crowded thoroughfares of Samaria, by the rushing waters of the Jordan." England, and not only the Church of England, is poorer to-day by his loss—how much poorer the future alone can show. Among the lessons of his life are these—the quenching of the fires of ecclesiastical strife in the waters of Christian charity, liberality of conscience in matters of religious belief, and the winning over of skeptical minds to the side of religion, by making the theology of the Sermon on the Mount the key-note of all true and honest religious teaching.

If Dean Stanley can not, in the necrology of 1881, be ranked with such men as Carlyle, Beaconsfield, Alexander II, and President Garfield, he may certainly take high rank in the second class, composed of such names as Haymerle or Dufaure, Dr. Punshon, Littré, and William Beach Lawrence, and, without question, what Matthew Arnold translates the "sweet reasonableness" of Christ was more perfectly embodied in the Dean of Westminster than in any other conspicuous man of the nineteenth century.

STREET, ALFRED BILLINGS, born at Poughkeepsie, New York, December 18, 1811; died at Albany, New York, June 2, 1881. He was the son of General Randal S. Street, a distinguished lawyer. After a course of study at the Dutchess County Academy, he entered the legal profession, and practiced law at Monticello, but in 1839 removed to Albany. In his youth he commenced his literary career as a poetical writer for magazines. His first volume, "The Burning of Scheneectady, and other Poems," was published in 1842; "Drawings and Tintings," in 1844; and his longest work, "Frontenac, a Tale of the Iroquois," in London, 1849. He was also the author of several poems, of acknowledged merit, delivered at Geneva and Union Colleges, and he held an honored place among American poets of the era preceding the civil war. Mr. H. T. Tuckerman criticises the poetry of Mr. Street very flatteringly, and states that in England his works were highly appreciated for their vivid and sympathetic treatment of natural scenery. His "Lost Hunter" was finely illustrated in a periodical, thus affording the best evidence of the picturesque fertility of his muse. Many of his pieces glow with patriotism. His "Gray Forest Eagle" is a noble lyric, full of point. "The Council of Revision," containing the vetoes of the Council, a history of the Supreme, Chancery, and Admiralty Courts of New York, and biographical sketches of its governors and judges from 1777 to 1821, is one of Mr. Street's most important works. His best-known prose work is probably "Woods and Waters; or, The Saranacs and Racket," descriptive of a tour in the great wilderness of Northern New

York, known as the Adirondack region. A number of his poems have been translated into German—a rare honor for American poets. He prepared a digest of taxation, which was recently revised under the authority of the Legislature. He held the position of keeper of the State historical records. At the Schuylerville centennial celebration he delivered an excellent poem, and the last of all his poems was read at the Poe memorial meeting in New York city. This celebration fell on the birthday of Shakespeare, and the subject of Street's poem was the immortal bard. In 1848 he was appointed State Librarian, and in 1862 he became Librarian of the Law Library.

SWEDEN AND NORWAY. Two kingdoms of Northern Europe, united under the same dynasty. The King, Osear II, born January 21, 1829, succeeded to the throne at the death of his brother, Charles XV, September 18, 1872. He married on June 6, 1857, Sophia, daughter of the Duke of Nassau, born July 9, 1836. Their oldest son is Gustavus, heir-apparent, Duke of Wermland, born June 16, 1858; married, September 21, 1881, to Victoria, daughter of the Grand Duke of Baden.

SWEDEN.—The executive authority is in the hands of a king, who acts under the advice of a ministry, which at the close of 1881 was composed as follows: Count A. R. F. Posse, Minister of State; Baron C. F. L. Hochschild, Foreign Affairs; Dr. J. H. Lovén; Dr. N. H. Vult von Steyern, Justice; Baron C. G. von Otter, Navy; Colonel O. F. Taube, War; F. L. S. Hederstjerna, Interior; Dr. C. G. Hammarskjöld, Ecclesiastical Affairs; J. C. E. Richert, and O. R. Themptander, Finance.

The area of Sweden, inclusive of inland lakes, is 170,741 square miles; the population on December 31, 1879, was 4,578,901, of which 2,228,855 were males, and 2,350,046 were females. In 1879 there were 28,635 marriages, 143,242 births, 81,351 deaths, and 4,199 stillbirths. The population of Stockholm in 1879 was 173,433.

The number of emigrants from 1875 to 1879 was as follows:

YEAR.	Emigrants.	YEAR.	Emigrants.
1875	9,727	1878	9,032
1876	9,418	1879	17,637
1877	7,610		

The budget for 1882 estimates the receipts and expenditures at 75,938,000 crowns each (1 crown = 26·8 cents). The principal sources of revenue were as follows:

	Crowns.
Ground-tax	6,005,000
Railroads (net)	5,500,000
Crown-lands	2,900,000
Customs	27,000,000
Excise	14,000,000
Income-tax	5,600,000
Posts	4,900,000
Stamped paper	3,000,000

These estimates, however, do not present a correct picture of the revenue and expenditures of the kingdom, as the greater part of the army, and many civil officials and ministers, are paid from certain crown-lands, whose

revenue is not mentioned in the budget. The public debt of Sweden on December 31, 1880, amounted to 230,356,239 crowns.

The Swedish army in 1881 consisted of 202,783 men. The navy consisted of 44 steamers with 155 guns, 10 sailing-vessels with 105 guns, and 87 smaller vessels with 113 guns.

The length of the Government railroads in 1880 was 1,954 kilometres, and of the private roads 3,920 kilometres; in all, 5,874 kilometres. The length of the Government telegraph lines in 1880 was 8,288 kilometres, and of the wires 20,336 kilometres. The number of stations was 176. There are, besides, 187 stations connected with the Government railroads.

NORWAY.—In Norway the executive is represented by the King, who exercises his authority through a Council of State, composed of two Ministers of State and nine Councilors. Two of the Councilors, who are changed every year, together with one of the Ministers, form a delegation of the Council of State, residing at Stockholm near the King.

The area of Norway is 122,280 square miles, and the population, according to the census of 1875, was 1,806,900. According to an official calculation, the population at the close of 1879 was 1,916,000. The receipts for 1880 amounted to 48,721,000 crowns (1 crown = 26·8 cents), and the expenditures to 44,212,000 crowns. The public debt on June 30, 1880, amounted to 91,500,000 crowns. The imports in 1880 were valued at 150,871,000 crowns, and the exports at 108,739,000 crowns. The length of railroads in operation, December 31, 1881, was 1,323 kilometres. The length of Government telegraph lines on the same date was 7,517 kilometres, and of the wires 13,666 kilometres; the number of stations was 127. The length of the railroad telegraph lines at the close of 1880 was 1,162 kilometres, and of the wires, 2,309 kilometres; the number of stations was 122.

The main sources of the public revenue of Sweden are the import duties, the liquor-tax, and the state railways. The total revenue in 1880, under these heads, amounted to 59,201,502 crowns (\$15,866,000), against 51,261,653 crowns (\$13,728,123) in 1879. The different sources of revenue yielded the following amounts: Customs, 27,632,634 crowns, against 25,003,261 crowns in 1879; spirit-tax, 15,168,868 crowns, against 12,024,322 crowns; state railways, 16,400,000 crowns, against 14,234,079 crowns. The income exceeded the budget estimate by 4,301,502 crowns, while the previous year it fell 1,038,347 crowns below the estimate. The direct taxes, etc., swelled the total revenue to about 76,000,000 crowns. On the 1st of January a new tariff went into operation, in which the metric system is employed in place of the old system of weights and measures. Flour imports are subjected to a registration fee, another name for an import duty. About \$1.50 per capita is raised for the annual expenses of the state by indirect, and

only one-fifth or one-sixth as much by direct, taxation. Of the total expenditures the army and navy usually demand about one third, and public education one tenth or one twelfth. In voting the budget for 1881, the Second Chamber carried, over the hostile vote of the Upper Chamber, a measure increasing the income-tax rate for the year, in order to meet certain floating liabilities of the Treasury. As the estimates were made unusually low, and the necessity for the extra tax did not appear to be urgent, it was probably intended to pave the way for a new distribution of the taxes, and is likely to be made permanent.

The Swedish Diet appointed, at the close of the session, committees to consider projects for the reform of the army, the navy, the taxes, and the tariff. The reports of these committees proposed no extensive changes in the existing systems. The one on the army proposed that the strength of the regular army be fixed at 25,000 men in peace and 47,000 in war-time, the annual contingent at 5,500 men, and the military budget at from 25,000,000 to 27,000,000 crowns. The very unpopular duty on corn-meal, which was imposed in 1880, was the subject which chiefly occupied the attention of the tariff committee.

The Crown Prince of the United Kingdoms wedded, in the summer, the Princess Victoria of Baden.

Only 15 per cent of the Swedish people dwell in towns, including under that name places of only 300 or 400 inhabitants. There are altogether ninety towns in the country, of which thirteen have a population of under 1,000. The urban communities are given a greater number of representatives in the Legislature than the rural communities. Thus, in the last general election the cities elected members to the Lower Chamber in the proportion of one to 10,000 inhabitants, while the country electoral districts counted on the average 27,000 inhabitants. About 5·9 per cent of the population in the country districts and 6·5 per cent of the city population possessed the franchise; but for the communal elections 10·1 per cent of the rural population are entitled to vote. The average proportion of the electors who exercise the franchise is in the country only 16 or 17 per cent, while in the towns from 37 to 41 per cent of those entitled to vote take part in the general elections.

The political subdivisions of the country possess considerable powers of self-government. The communes are charged with the duty of providing for the support of churches, schools, the poor, public buildings, and highways, and the local taxation for these objects amounts to more than 50,000,000 crowns annually. The *län*s, or counties, twenty-five in number, have the charge of sanitary matters, and provide for the maintenance of hospitals, etc., dispensing about 2,500,000 crowns annually.

Every Swedish parish has its poor-house, the

number of which in 1875 was 2,134. The number of paupers in the kingdom was 193,046, or 4·3 per cent of the population; the proportion in the rural districts was 4 per cent, in the towns 6·2 per cent. The percentage is greatest on the southwest coast and in a part of Småland in Central Sweden, instead of in the bleak regions of the north. Many parishes have a granary for the grain which is furnished by the residents for distribution among the poor. Numerous communities furnish paupers, capable of working, with plots of ground to till. If these modes of provision are insufficient, and the almshouse is full, the wealthier members of the community are expected to provide food and shelter on certain days for the poor, who are sent from farm to farm.

The number of post-offices is about 2,000. In the neighborhood of 34,000,000 letters and newspapers are forwarded annually, besides 7,000,000 sent or received from abroad, altogether 9 per capita. Letters are not delivered by carriers, except in the cities. In the rural districts it is customary to have the letters for a whole neighborhood brought by whoever has business at the post-office town to the parsonage or some large farm-house, and there distributed. There were, in 1878, in Sweden 179 telegraph-stations, besides those of the 536 railroad-stations. The number of messages was about 1,000,000, or 0·22 per capita. Among the 634 telegraph officials were 135 female operators.

Savings-banks are comparatively numerous, the number in 1877 having been 338, or one to every 13,268 inhabitants. The average number of depositors was 2,241 to each bank, or every sixth member of the community, counting young and old. The average amount of deposits was 193 crowns (\$54) to each account; the aggregate deposits amounted to 31,500,000 crowns. The country has made a remarkable advance in wealth and prosperity within a brief period. While the population increased 11 per cent between 1864 and 1878, the estimated national income increased 87 per cent, or from \$11 to \$20 per head of the population.

Sweden stands behind no country in popular education. The number of school-children per 1,000 inhabitants is 140, which is only excelled by Germany with 154, while the United States and France come next with 127, and Belgium with 124. The difficulties in the way of a regular school attendance are greater than in other lands, not only on account of the severe northern winters, but because the people dwell in isolated farm-houses, and not in clustering villages as in Germany and other parts of Europe. The number of attendants in the public schools, according to the statistics for 1876, were 613,424; the number of schools, 8,706.

The Radical party in Norway redoubled their attacks upon the dynasty and monarchic institutions after they obtained the majority in the

Storting. Their intellectual leader, the poet Björnsterne Björnson, projected into the conflict his personal animosity toward King Oscar II. A project for military reorganization which has been proposed, is denounced by the Conservatives as a revolutionary scheme aimed at the overthrow of the Government. This was to constitute a volunteer army, the state providing the arms, from the numerous anti-monarchic political societies.

The finances of Norway have long been in a sorry condition. In 1880 about 4,000,000 crowns were taken from the loan raised for railroad construction, to cover the ordinary expenses of the Government, and in 1881 the remaining 5,000,000 crowns of the loan would have to be consumed unless resort was had to the obnoxious income and property tax which was demanded in the royal address read at the opening of the Storting, February 3d, and which had before been resolutely opposed. The proposition was abruptly dismissed without even referring it to a committee. An open conflict between the Government and the majority was begun by a resolution of the Storting requiring the presence of the Ministers in the hall during the deliberations of the Legislature, in pursuance of a paragraph in the Constitution which gives the Storting the power to compel every Norwegian, with the exception of the King and royal family, to appear and give oral explanations touching any matter of public import.

SWITZERLAND, a republic of Central Europe, consisting of twenty-two cantons, three of which are each divided into two independent half-cantons. The President of the Federal Council for 1881 was Numa Droz, of Neuchâtel, and the Vice-President, Simeon Bavier, of Grisons. The area is 15,981 square miles, and the population, according to the census of December 1, 1880, 2,846,102. The population of the different cantons, according to the census of 1880, was as follows:

CANTONS.	Male.	Female.	Total.
Zürich.....	153,035	164,541	317,576
Bern.....	265,741	266,423	532,164
Lucerne.....	67,854	67,422	134,806
Uri.....	13,615	10,079	23,694
Schwytz.....	25,840	25,395	51,235
Unterwalden ob dem Wald.....	7,473	7,883	15,356
Unterwalden nid dem Wald.....	5,759	6,203	11,992
Glarus.....	16,210	18,003	34,213
Zug.....	11,299	11,695	22,994
Freiburg.....	57,660	57,740	115,400
Soleure.....	39,355	41,069	80,424
Basel, city.....	29,838	35,263	65,101
Basel, country.....	29,674	30,197	59,271
Schaffhausen.....	18,369	19,979	38,348
Appenzell outer Rhodes.....	25,569	26,389	51,958
Appenzell inner Rhodes.....	6,363	6,478	12,841
St. Gall.....	102,392	107,599	210,491
Grisons.....	45,669	49,322	94,991
Aargau.....	95,873	102,772	198,645
Thurgau.....	49,266	50,286	99,552
Ticino.....	60,477	70,300	130,777
Vaud.....	119,034	119,696	238,730
Valais.....	50,507	49,709	100,216
Neuchâtel.....	50,169	53,563	103,732
Geneva.....	48,125	53,470	101,595
Total.....	1,394,626	1,451,476	2,846,102

Of the total number, 211,019 were foreigners. The religious statistics, according to the census of 1880 were as follows:

Protestants.....	1,667,109
Catholics.....	1,160,782
Jews.....	7,373
Others.....	10,838

The population was divided as follows among the different languages:

German.....	2,030,782
French.....	608,017
Italian.....	161,923
Romance.....	38,705
Others.....	6,675

The number of marriages in 1879 was 19,447; the number of births in 1880, 87,395; of deaths, 65,690; and of still-births, 3,247. The number of emigrants in 1880 was 7,225, of whom 5,792 went to North America.

The population of the principal cities in 1880 was as follows:

Geneva.....	50,043
Geneva (with suburbs).....	68,320
Zürich.....	25,102
Zürich (with suburbs).....	75,956
Basel.....	61,399
Bern.....	44,037
Lausanne.....	30,179
Chaux-de-Fonds.....	22,456
St. Gall.....	21,438
Lucerne.....	17,850

In the budget for 1881 the revenue was estimated at 40,741,500 francs, and the expenditure at 40,955,500 francs. The property of the state in 1880 amounted to 51,117,348 francs, and the debts to 37,442,029 francs. The length of railroads in operation in 1879 was 2,573 kilometres. The length of telegraph lines in 1880 was 6,554 kilometres, and of the wires, 16,058 kilometres.

The Federal Assembly met in an extraordinary session in February. Vice-President Droz was elected President of the Confederation, Councilor Bavier being chosen to succeed him as Vice-President.

A law was passed regulating the emission of bank-notes by private and cantonal banks, requiring a reserve to be held against the issues of forty per cent in specie, and cantonal bonds or good commercial paper to guarantee the remainder. The project of a Federal state bank was therefore defeated, and the security of the bank issues not materially improved. A coinage law to make small coins of nickel and copper without any alloy of silver was passed. A new factory law making employers pecuniarily answerable for injuries to work-people was enacted. A new law for the official inspection and guarantee of the fineness of gold and silver wares was enacted.

In the election of the Federal Council by the Federal Assembly in December the Councilors were all retained in office, namely, Welti, Hammer, Bavier, and Hertenstein, who are counted as moderate Liberals, and Droz, Schenck, and Ruchonnet, representing the Radical wing of the party. In accordance with the usual custom the Vice-President (Bavier) was elected President of the Confederation for 1882, Ruchonnet being elected his successor as Vice-

President. The departments were distributed among the Councilors in the following manner: President, Bavier, alternate Ruchonnet; Interior, Schenck, alternate Droz; Justice and Police, Ruchonnet, alternate Welti; War, Hertenstein, alternate Hammer; Finance and Customs, Hammer, alternate Hertenstein; Commerce and Agriculture, Droz, alternate Schenck; Post-office and Railroads, Welti, alternate Bavier.

The election of Ruchonnet into the executive body in February to succeed the deceased Councilor Anderwert changed in some respects the character of the Federal Council. The majority which was constituted by this accession was inclined to construe more strictly the paragraphs of the compromise Constitution adopted in 1874, which were unwelcome to the Catholic cantons, particularly the anti-Jesuit law and the article requiring the cantons to provide satisfactory gratuitous and compulsory primary instruction in secular schools, conducted under civil direction exclusively. The Radical party were inveighed against in several of the cantons, particularly in Geneva, for tendencies toward centralization which they were charged with following. With the cry against "centralization" and "Germanization" an uncommonly passionate electoral campaign was carried on in the autumn, but the Radical-Liberal party came out victorious with a greater and more largely Radical majority in the National Council. The tendency toward centralization is manifested plainly in the drift of public sentiment in German Switzerland. Several changes in the Federal Constitution are advocated with more and more effect. The proposition for a national bank-note currency, though once voted down, is gaining in favor. National schools are proposed; and various projects for legislation on trade and industry, protection of workmen, emigration, colonization, etc., reveal the tendency.

The Federal budget for 1882 estimates the total revenue at 41,670,000 francs and the expenditures at 42,035,000 francs, showing an expected deficit of 365,000 francs. The items of expenditure under the several heads are as follows:

ESTIMATED EXPENDITURES.	Francs.
Interest and reduction of debt.....	1,870,000
General administrative expenses.....	789,900
DEPARTMENTS:	
Executive.....	298,500
Interior.....	2,756,135
Justice and police.....	45,000
Military.....	15,953,449
Finance.....	1,719,400
Customs.....	1,583,500
Commerce and Agriculture..	806,550
Post-Office.....	14,195,000
Telegraphs.....	2,377,000
Railways.....	174,188
Incidental.....	30,414,722
	10,373
Total..	42,035,000

The Federal Assembly has since the institution of the referendum in 1874 enacted sixty-

one laws and passed fourteen resolutions subject to ratification by popular vote, of which fifty-three laws and twelve resolutions were suffered to go into effect without any appeal to the people.* Of the eight acts and two resolves which were subjected to a *plébiscite*, five acts and one resolve were vetoed by the people. These were the military tax projects of 1876 and 1877, the bank-note project of 1876, the proposed amendment of the Constitution to allow the emission of national bank-notes in 1880, and the proposed electoral law in 1877. Those which were ratified by the popular vote were the civil list law in 1875, the factory law in 1877, the Alpine Railway subvention law in 1879, and the resolution in relation to the restoration of the death-penalty in 1879.

After the murder of the Czar, in St. Petersburg, earnest representations were made by the Russian Government, with the object of inducing Switzerland to curtail the right of asylum extended to Russian revolutionaries, many of whom were resident in Geneva, Zürich, and Basel. A fanciful story, printed by the French socialistic journalist, Rochefort, of revelations which he pretended or supposed he had received from Russian Nihilists in Switzerland, represented the refugees in Switzerland as the authors and directors of the plot for the assassination of the Russian Emperor. An investigation of the Swiss authorities failed to establish any connection between them and the assassins in Russia, and showed that they had not communicated by telegraph with Rochefort. The threatened restriction of the rights of asylum and of assembly was the occasion of meetings and public protests in the cities where the social-democratic element was numerous. The Federal Council determined on a more restrictive course, but met with little support in the new policy from the local governments. In Geneva placards, protesting against the execution of the female Nihilists in Russia, were posted, with the official permission of the police department. One of the prominent Nihilist refugees, Prince Krapotkin, who had long been domiciled in Switzerland, was expelled by order of the Federal Council. The agitation against the restriction of the right of asylum was more than counterbalanced by a contrary agitation, prompted by the fear that the independence of Switzerland was compromised by the attitude of the radical elements, and by hostility to the spreading doctrines of socialism. The Socialists of Europe had made preparations for a congress, to be held in Zürich on the 2d of September. Many thousands of the citizens of Zürich signed petitions for the prohibition of this convention. It was forbidden by the cantonal government, and an appeal to the courts, based on an article in the Constitution, guaranteeing unre-

stricted rights of assembly and free discussion, proved fruitless. The Bernese authorities likewise refused permission for the Socialist delegates to meet in Bern. A few of them eventually came together, secretly, at Chur, went through their order of business in form, and appointed a congress in Paris in 1883.

In negotiations with the French Government with regard to connecting the Swiss railroads with a new French line through Savoy by a branch from Geneva to Annemasse, the subject of the guaranteed neutrality of Savoy came under consideration. In former diplomatic discussions between the two states this matter has been avoided as a delicate question.* France endeavored to obtain a recognition from the Swiss plenipotentiaries of her right to fortify her frontier in the neutralized territory, but, failing of this, dropped the matter as one of no practical importance, since Switzerland's protest against the annexation of Savoy and claims to that province have practically no moral, physical, or logical basis.

The Swiss army is composed of the *élite*, or the portion of the militia which is in regular training, consisting of young men between twenty and thirty-two years of age, and the *Landwehr*, consisting of those between thirty-two and forty-four years of age, who have passed through the regular drill. The *Landwehr* have hitherto been called out for annual inspection only, but according to the present regulations they are obliged to train for a number of days each year. The total legal strength of the Swiss army is 215,000; its effective strength, according to the report for 1881, was 202,479 men; in the *élite*, 105,425, being a few thousands above the legal quota; in the *Landwehr*, 97,054, or about 14,000 short of the legal quota. A commission appointed to devise a system of defensive works approved in their majority report of a single central fortress near Zürich, where the troops could be concentrated rapidly, instead of the burdensome system of frontier fortifications.

The population of Switzerland, according to the decennial census which was taken in the night of November 30, 1880, was 2,831,787, as compared with 2,655,001 in 1870, 2,510,794 in 1860, and 2,390,116 in 1850. The largest in-

eral Legislature. The appeal to the people must be made within a stated period. The same democratic conservative check upon legislation was adopted into the constitutions of eleven of the cantons.

* The Vienna Treaty of 1815 extended over the Sardinian provinces of Chablais and Faucigny, and the territory north of Ugines and beyond Faverges to the Lake of Bourget and the river Rhône, the guarantee of the neutrality of the Swiss dominions subscribed to by all the powers. The treaty provided that, whenever hostilities broke out or were impending between neighboring states, the King of Sardinia should withdraw all his troops from these provinces, and that the Swiss Confederation might occupy them temporarily for the prevention of the invasion or transit of foreign forces. France after her annexation of Savoy found no occasion before the present to repudiate this remarkable guarantee of a divided sovereignty, though the Swiss at the time of the Sardinian war had shown a disposition to magnify it into a ground for annexing the provinces themselves, and have since insisted in academic discussions on the full force of the obsolete stipulations.

* The *referendum* is a provision in the constitution of 1874, giving a certain number of electors the right to require a popular vote to be taken upon any act passed by the Fed-

crease has been in the cantons of Basel City, Uri, Zug, Neuchâtel, and Geneva. The canton of Aargau has gradually decreased in population since 1840. Political refugees from Germany form the principal part of the increment in the population of Basel, which has grown from 29,555 inhabitants in 1850 to 64,207 in 1880. The growth of Geneva from 63,000 in 1850 to 99,000 is in like manner attributable mainly to the immigration of political exiles from France; many have taken advantage of the amnesty laws and recently returned to France, but very many families have formed attachments which unite them permanently to their new home, or are deterred from returning by the compulsory military service now exacted in France. The French population of Geneva is about 30,000. The population of the cantons of Zug and Uri has been swelled by the influx of workmen employed on the St. Gothard Railway. The annual rate of increase in Switzerland for thirty years has been 5.5 per 1,000, and was somewhat greater in the latter half of the period than in the first half. Only three European countries show a slower rate of increase, namely, Bavaria, where the annual increment was 5.4 per 1,000 inhabitants; Ireland, where it was 4.6; and France, where it was 2.3. The natural growth of the population was greater than the actual increase, the excess of births over deaths in the ten years

having been 200,828, and the actual increase, as determined by the census, 176,786, indicating a net loss by emigration during the decade of 24,112. The real loss was, however, not so great, as numbers of Bourbaki's soldiers and other temporary refugees from France were included in the census of 1870.

The emigration from Switzerland to other than European countries in 1880 numbered 7,255 persons, as against 4,288 in 1879. The emigrants to the United States were 5,792 in number. Of the total number, 1,829 were married, 3,704 single adults, and 1,722 under sixteen years of age.

The village of Elm, in Glarus, was overwhelmed by a land-slip in the night of September 11th. About two hundred persons were buried beneath masses of rock and earth which were loosened from the Tschingel Alp overhanging the village, by the action of heavy rains.* The land of the valley, which was cultivated by the peasants of the village, was buried by the avalanche. Fragments of rock were projected for a distance of three miles. Two slips occurred with a brief interval between them, the first carrying away the portion of the village called Unterthal, and the second destroying a great part of the main village. The weight of the mass, which was precipitated 2,000 feet, was estimated at between 300,000 and 400,000 tons.

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TENNESSEE. The presidential vote in 1880 was as follows: For the Garfield electors, 107,677; Hancock electors, 128,191; Weaver, 5,917; Dow, 43. The Legislature chosen at that election consisted of 15 Democrats and 10 Republicans in the Senate, and in the House of 36 Democrats, 37 Republicans, and one Greenbacker, with one vacancy, which was subsequently filled by a Republican. The Democrats were divided on the debt question into "State-credit" and "Low-tax" Democrats. The Republicans were in sympathy with the former. This body met on the 3d of January, 1881, and remained in session until the 7th of April. The first ballot for United States Senator was taken on the 18th of January, as follows: For Horace Maynard, Republican, 41; John H. Savage, Democrat, 23; James E. Bailey, Democrat, 22; scattering, 14. The contest was prolonged until the 26th of January, when, on the thirtieth ballot, Howell E. Jackson, Democrat, was elected by a vote of 70 to 24 for Maynard, and 4 scattering.

The most important subject under consideration by the Legislature was the State debt.

Various bills were introduced providing for a settlement, but, before final action was taken on any of these, a committee, acting in behalf of nearly three hundred holders of the State bonds, proposed a compromise, which was trans-

mitted to the Legislature by the Governor, with a recommendation that it be accepted. The proposition was in the following terms:

The bonds and interest coupons thereof, up to and including the one due July 1, 1881, to be capitalized, and new compromise bonds of the State to be issued therefor, bearing date July 1, 1881, payable ninety-nine years thereafter (but redeemable at any time after five years at the pleasure of the State), with interest at the rate of three per centum per annum, payable semi-annually in New York, on the first days of January and July in each year; and the coupons for the said interest on the said compromise bonds to be made receivable, at and after maturity, for all taxes and debts due to the State of Tennessee.

On the 5th of April an act embodying this proposition was passed by the Senate by a vote of thirteen to twelve, having previously passed the House. The following are the essential portions of this act:

SECTION 1. *Be it enacted by the General Assembly of the State of Tennessee, That all the legally issued*

* Elm was situated in the Sernft Valley at the foot of the Laaxer and Stoekli glaciers, and at the highest point of the pass between Glarus and the valley of the Vorder Rhein. The Freiberge Mountains rise above the town to the height of 9,000 feet. The Tschingel Mountain is composed of argillaceous schist, and had long been considered as dangerous. Slate-quarrying on the mountain and numerous shocks of earthquake in the preceding twelve months had rendered it more liable to rupture than ever before. The village contained about 1,000 inhabitants, mostly thriving farmers and quarrymen and their families.

bonds of the State of Tennessee, except the bonds issued for the permanent school fund, and except the bonds held by educational and charitable institutions, and all outstanding coupons thereon up to and including those falling due on the first day of July, 1881, be capitalized and funded into coupon bonds of the State, to be styled "The Compromise Bonds of the State of Tennessee."

SEC. 2. *Be it further enacted*, That for each and every legally issued bond of the State of Tennessee, or coupons, presented to the Funding Board hereinafter provided for under the provisions of this act, there shall be issued a bond or bonds for an amount equal to the principal of said bond so presented, together with the past-due interest thereon. Said bonds authorized to be issued under the provisions of this act shall be dated on the first day of July, 1881, and shall be payable ninety-nine years after their date, but the same shall be redeemable by the State at any time after the expiration of five years from their date, at the pleasure of the State; shall bear interest at the rate of three per cent per annum, payable semi-annually on the first days of January and July, in the city of New York; shall have coupons of interest attached to each of said bonds; and for the punctual payment of the principal and interest of said bonds the faith, credit, and honor of the State are hereby solemnly pledged.

SEC. 3. *Be it further enacted*, That the coupons on said compromise bonds, on and after their maturity, shall be receivable in payment for all taxes and debts due the State, and said coupons shall show upon their face that they are so receivable.

SEC. 4. *Be it further enacted*, That said bonds shall be in denominations of \$50, \$100, \$500, and \$1,000. That is, there shall not be less than five per cent of the whole amount in bonds of the denomination of \$50; five per cent of the denomination of \$100, and ten per cent of the denomination of \$500, the remainder to be of the denomination of \$1,000 (to be pro-rated by the Funding Board, hereinafter provided, as said board may deem just and equitable between those who may present their bonds and coupons to be funded under this act). But the Funding Board may issue bonds of the smaller denomination aforesaid, to any amount in excess of the amounts hereinbefore stated, if the holders of the bonds and coupons who present them to be funded so desire.

SEC. 5. *Be it further enacted*, That the Secretary of State, Comptroller, and State Treasurer shall constitute a board to be designated a Funding Board, any two of which shall constitute a quorum for the transaction of any and all business for which said board was created. Said board may sit or hold meetings for the transaction of the business created by this act, at such times and places as they may deem wise and proper, to enable the holders of Tennessee bonds and coupons to fund the same under the provisions of this act.

To carry out the provisions of this act a revenue bill was passed which provides for a tax of forty cents (ten cents for school purposes, and the rest for general purposes) on the \$100 worth of property, thirty cents *ad valorem* on merchants, and thirty cents on privileges. The existing rate of taxation on the \$100 was ten cents. During the session over a thousand bills were introduced, of which only 131 became laws. These are entirely of a local interest.

The following are the principal amounts appropriated in the act to defray the expenses of the State government for the next two years:

Criminal prosecutions.....	\$349,000 00
Conveying lunatics to the Tennessee Asylum for the Insane.....	850 00
Judicial salaries.....	201,200 00

Brought forward.....	\$551,050 00
Attorney-General and reporter.....	6,000 00
Executive salaries.....	22,500 00
Salaries of Adjutant-General, Superintendent of Asylum for the Insane, Librarian, Superintendent of the Capitol.....	9,600 00
Officers of the Penitentiary.....	9,300 00
Charitable institutions.....	190,000 00
Legislative expenses.....	6,000 00
Executive expenses.....	10,740 00
Capitol expenses.....	4,020 00
Bureau of Agriculture.....	18,000 00
Supreme Court expenses.....	8,000 00
Express charges.....	1,500 00
Tax aggregates.....	2,400 00
Public printing.....	22,504 00
Interest on school fund.....	301,500 00
Land-sales, clerks' and printers' fees, 1878-'79..	1,970 00
Per diem and mileage of Representatives.....	26,136 40
Per diem and mileage of officers of the House..	8,227 28
For deficiencies in the Appropriation Bill of 1879, in criminal prosecutions.....	55,000 00
Miscellaneous.....	47,531 87
Per diem and mileage of Senators.....	8,475 20
Of officers of the Senate.....	2,583 60
To pay the interest on the State debt from July 1, 1881, to January 1, 1883.....	1,125,000 00
Total appropriations.....	\$2,435,110 54

The books of the Comptroller show in the hands of the Treasurer:

December 19, 1878.....	\$475,346 04
Receipts from December 19, 1878, to December 18, 1880.....	1,144,394 82
Receipts from December 18, 1880, to January 27, 1881.....	41,395 79
Total.....	\$1,664,136 65

The disbursements were as follow:

From December 19, 1878, to December 18, 1880.....	\$1,400,316 47
From December 18, 1880, to January 27, 1881..	93,771 76
Total.....	\$1,499,088 23
Balance in the Treasury.....	\$165,048 42

The census of votes taken this year as a basis of legislative re-apportionment gives the number of 344,741. The school population numbers 544,852. The census of 1880 gives the production of Tennessee as follows: Corn, 62,764,429 bushels; oats, 4,722,190; wheat, 7,331,353; tobacco, 29,365,052 pounds; cotton, 330,621 bales; and coal, 495,131 tons. The lumber business of the State has increased greatly during the last few years.

The Legislature re-assembled in extra session on the 7th of December for the purpose of re-apportioning the members of the Senate and House, and adjourned on the 26th. The bill passed increases the number of Senators from twenty-five to thirty-three, and the members of the House from seventy-five to ninety-nine. The opposition to the settlement of the debt did not end with the passage of the act. Henry J. Lynn and certain other alleged citizens and tax-payers of the State filed a bill in the Court of Chancery at Nashville to enjoin the carrying out and enforcement of its provisions.

The grounds for injunction stated in the bill are: That the "funding act" was procured to be passed by bribery and corruption of certain members of the General Assembly; that the tax-coupon feature forestalls the revenue and diverts it from current exigencies, narrowing the scope of subsequent legislation by an enactment in the form of a contract "binding the

revenue and the political power of the State over the same" and directing this revenue "exclusively and *preferentially* to the discharge of such contract," "thereby denying to the State" that benignant supervision that will both allow and prompt her to temper and adapt her rule to the circumstances and vicissitudes which the coming year may bring; that this same feature violates section 24, Article II, of the Constitution, that "no money shall be drawn from the Treasury but in consequence of appropriations made by law"; that the same feature violates section 12, Article XI, of the Constitution, which provides that the interest on the common-school fund "shall be inviolably appropriated to the support and encouragement of common schools"; that it breaks in upon the previous revenue system, adjusted to what has heretofore been receivable for revenue, thereby amending that system, yet without referring thereto, and thereby violating section 17, Article II, of the Constitution; that the act amends the revenue act of 1873, which prescribes what shall be receivable for taxes, by adding the compromise coupons to the list of tax-receivables, and yet does not recite in its caption or otherwise the title or substance of the law amended; that the act violates section 2, Article II, of the Constitution, forbidding any person belonging to one department of the government from exercising any power belonging to either of the other departments; in this case the "Funding Board," constituted of the Secretary of State, Comptroller, and Treasurer, being given judicial power, etc., and that the Legislature (looking to the possible consumption of the revenue actually provided by the coupon) did not make adequate provision for the ordinary expenses of the government.

The bill, in conclusion, prays in case complainants are "mistaken in regard to the power and functions of the Funding Board; and in their construction of the act in reference to the school fund, that the same may be construed by the court," etc. The persons designated in the act by their official titles as a Funding Board were made defendants to the bill in their own names, thus: "M. T. Polk, T. N. Nolan, and D. A. Nunn, hereinafter styled the Funding Board." The injunction prayed for was granted, and thereupon the defendants, having been served with process and enjoined according to the prayer of the bill, appeared in the Chancery Court at Nashville, and moved the court to dissolve the injunction for want of equity on the face of the bill. That court dissolved the injunction, and in addition, of its own motion, also dismissed complainants' bill; from the decree thus made the complainants appealed to the Supreme Court. A motion made to advance the cause on the docket was granted at the close of the year, and the case was set down to be argued on the 17th of January, 1882.

The matter of the debt of Memphis was before the Supreme Court in June, in the case

of John O'Connor *vs.* the City of Memphis. Memphis owed a debt, the principal of which amounted to nearly \$3,000,000. The city had been in default, both on principal and interest, since January 1, 1873, and in January, 1879, it secured the passage by the Legislature of a bill repealing its charter, and creating the so-called "Taxing District" of Shelby County in its stead. On February 12th of the same year, a receiver was appointed, by one of the Federal courts, to take charge of all the city property, and vested with power to collect some \$3,000,000 of unpaid taxes, by garnishment or otherwise. The repealing act having been taken to the State Supreme Court, it was declared constitutional, the court holding that "municipal corporations are within the absolute control of the Legislature, and can be abolished at any time in its discretion, and an act which repeals the charter of a single municipal corporation is constitutional." Following this decision the United States Supreme Court decided the action of the Federal Court, appointing a receiver, to be void. Thus far the decisions seemed to be against the creditors of the city, but the decision of the State Supreme Court in the case of O'Connor altered the situation to some extent. This suit was pending against the city at the time of the repeal of the charter. The plaintiff moved to revive the debt against the taxing district, on the ground that the latter is in legal effect the same corporation as the city. The majority of the court, according to the Memphis "Avalanche," "concurred in the opinion that the reviver should be ordered, holding that the taxing district was a municipal corporation, organized for the government of the same people and territory as were formerly under the local government of the city. The court holds that so much of the act establishing the taxing district as declares that it should not be liable for the debts of the city of Memphis, is void; that the same people and territory being reincorporated under a new name, the new municipality is but a continuation of the old, and liable for its debts, notwithstanding a legislative declaration to the contrary."

The following are further extracts from the opinion:

Whether the Legislature can withhold the taxing power as against debts previously contracted is a grave question, not now before us. It may be that the creditor can not collect his debt, but—to use the language of Judge Clifford, in the Beckwith case—"he ought always to be able, by some proper action, to reduce his contract to judgment."

The creditor should have this right in the present case, both for the purpose of reaching his share of the assets which may be realized by the receiver, and to have the benefit of future legislation. The courts can never presume the permanent repudiation by the State of an honest demand. This court has decided that the holder of a valid claim on the Treasury of the State is entitled to compel the Comptroller to issue him a warrant therefor, although it can not be paid without an appropriation for the purpose by the Legislature, and no such appropriation has been made.

We express no opinion on any point not now before

us. All we undertake at present to decide is that the taxing district of Shelby County is so far the successor of the late corporation of the city of Memphis, or the same corporation under a new name, that a suit pending against the old corporation may be revived against the new, and prosecuted to judgment.

The point relative to the powers of the Legislature appears to have been covered by several decisions of the Supreme Court of the United States—notably that of *Garrett et al. vs. the present authorities of Memphis*. In this decision it was held—Chief-Justice Waite delivering the opinion of the court—that, while (first) a corporation can not repudiate a debt, and (second) the taxing district is liable for the

debts of its predecessors, one corporation having succeeded another, (third) payment can come only through the levy of taxes on the existing corporation by the Legislature, whose power in the matters of taxation is sovereign, the levy of taxes being an act of sovereignty.

The essence of these decisions is that the collection of debts owed by municipal corporations depends chiefly on the sovereign will of the people as expressed by the law-making power. The debt of Memphis now amounts, principal and interest, to \$6,600,000.

The population of the State, by counties, was as follows in 1880 and in 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Anderson.....	10,820	8,704	Hancock.....	9,098	7,148	Morgan.....	5,156	2,969
Bedford.....	26,025	24,333	Hardeman.....	22,921	18,074	Obion.....	22,912	15,584
Benton.....	9,780	8,234	Hardin.....	14,793	11,768	Overton.....	12,153	11,297
Bledsoe.....	5,617	4,870	Hawkins.....	20,610	15,837	Perry.....	7,174	6,925
Blount.....	15,985	14,237	Haywood.....	26,053	25,094	Polk.....	7,269	7,369
Bradley.....	12,124	11,652	Henderson.....	17,430	14,217	Putnam.....	11,501	8,698
Campbell.....	10,005	7,445	Henry.....	22,142	20,880	Rhea.....	7,073	5,588
Cannon.....	11,559	10,502	Hickman.....	12,095	9,856	Roane.....	15,237	15,622
Carroll.....	22,108	19,447	Houston §.....	4,295	.....	Robertson.....	18,861	16,166
Carter.....	10,019	7,909	Humphreys.....	11,379	9,326	Rutherford.....	36,741	33,289
Cheatham.....	7,956	6,678	Jackson.....	12,008	12,583	Scott.....	6,021	4,054
Claborn.....	13,373	9,321	James ||.....	5,187	.....	Sequatchie.....	2,565	2,335
Clay*.....	6,987	.....	Jefferson.....	15,846	19,476	Sevier.....	15,541	11,028
Cocke.....	14,808	12,458	Johnson.....	7,766	5,852	Shelby.....	78,430	76,378
Coffee.....	12,894	10,237	Knox.....	39,124	28,990	Smith.....	17,799	15,994
Crockett †.....	14,109	.....	Lake.....	3,968	2,423	Stewart.....	12,690	12,019
Cumberland.....	4,533	3,461	Lauderdale.....	14,918	10,538	Sullivan.....	18,321	13,136
Davidson.....	79,026	62,397	Lawrence.....	10,333	7,601	Sumner.....	23,625	23,711
Decatur.....	8,493	7,772	Lewis.....	2,181	1,986	Tipton.....	21,033	14,384
De Kalb.....	14,513	11,425	Lincoln.....	26,960	23,050	Trousdale ††.....	6,646	.....
Dickson.....	12,460	9,340	Loudon ¶.....	9,148	.....	Unicoi ††.....	3,645	.....
Dyer.....	15,113	13,706	McMinn.....	15,064	13,969	Union.....	10,260	7,605
Fayette.....	31,871	26,145	McNairy.....	17,271	12,726	Van Buren.....	2,933	2,725
Fentress.....	5,941	4,717	Macon.....	9,321	6,633	Warren.....	14,079	12,714
Franklin.....	17,178	14,970	Madison.....	30,874	23,430	Washington.....	16,181	16,317
Gibson.....	32,635	25,663	Marion.....	10,910	6,241	Wayne.....	11,301	10,209
Giles.....	36,014	32,413	Marshall.....	19,259	16,207	Weakley.....	24,538	20,755
Grainger.....	12,384	12,421	Maury.....	39,904	36,239	White.....	11,176	9,375
Greene.....	24,005	21,663	Meigs.....	7,117	4,511	Williamson.....	28,318	25,323
Grundy.....	4,592	3,250	Monroe.....	14,283	12,589	Wilson.....	28,747	25,881
Hamblen ‡.....	10,187	.....	Montgomery.....	23,431	24,747			
Hamilton.....	23,642	17,241	Moore**.....	6,233	.....		
The State.....							1,542,350	1,253,520

TEXAS. The presidential vote in 1880 was as follows: For the Garfield electors, 57,893; Hancock electors, 156,428; Weaver electors, 27,405. The Legislature assembled on the 11th of January, 1881, and adjourned on the 1st of April. This body consisted of 29 Democrats and 2 Republicans in the Senate, and 80 Democrats, 4 Independent Democrats, 7 Republicans, and 2 Greenbackers in the House. On the 25th of January S. B. Maxey, Democrat, was re-elected United States Senator by a vote of 73 to 42 for J. W. Throckmorton and 7 scattering. The State was re-apportioned for legislative purposes.

* In 1870, from parts of Jackson and Overton.

† In 1872, from parts of Dyer, Gibson, Haywood, and Madison.

‡ In 1870, from parts of Grainger, Hawkins, and Jefferson.

§ In 1871, from parts of Dickson, Montgomery, Humphreys, and Stewart.

|| In 1871, from parts of Bradley and Hamilton.

¶ In 1870, from parts of Blount, McMinn, Monroe, and Roane.

** In 1872, from parts of Bedford, Franklin, and Lincoln.

†† In 1870, from parts of Macon, Smith, Sumner, and Wilson.

‡‡ In 1876, from parts of Carter and Washington.

The act passed regarding the sale of spirituous, vinous, or malt liquors or medicated bitters imposes an annual tax upon the sale of all such liquors as follows: In quantities less than a quart, \$300; one quart and less than five gallons, \$200; five gallons or more, \$300; malt liquors exclusively, \$50; provided that wholesale liquor-dealers or merchants paying occupation tax shall not be prevented from selling unbroken packages less than five gallons without being required to pay an additional tax as quart dealers. The law provides that county commissioners' courts may levy a tax equal to one half the State tax, and incorporated towns and cities also one half the State tax.

The State, county, and city taxes must be paid in advance for not less than twelve months, provided that any persons now engaged as liquor-dealers under authority of the "bell-punch law," approved April 3, 1879, shall not be deprived of any right, privilege, or immunity to which he or they may be entitled under said law, but may continue their occupations for the full time for which they have paid occupa-

tion tax under said "bell-punch law," or may, at their option, take out license under the provisions of this act, and when so doing shall have credit for any balance due or payment made under said act of April 3, 1879.

Retail dealers selling less than a quart are required to give bond with two securities, payable to and approved by the county judge, in the sum of \$1,000, conditioned that such dealers shall keep an orderly house, and that they will not knowingly sell or give, or permit to be sold or given, any spirituous, vinous, or malt liquor to any minor, or to students of any institution of learning, or to any habitual drunkard, or to any person after having been notified in writing by the wife or the daughter of the person not to sell to such person; and also that such dealers shall not permit any games prohibited by the laws of the State to be played, dealt, or exhibited in or about such place of business, or permit any minor to enter and remain upon the premises. The bond may be sued upon at the instance of any party aggrieved. If the bond sued on is exhausted, another in similar amount shall be given; if not given, and the dealer continues business, he shall be guilty of a misdemeanor.

County clerks shall not issue State license until county and city licenses are paid.

The act provides that if collectors of taxes shall knowingly permit any person to engage in any of the occupations named therein, in violation of law, they shall be guilty of a misdemeanor unless they report such violation immediately to the county or district attorney.

The Adjutant-General's report shows the operations of the Frontier Battalion and of the special force for the suppression of lawlessness and crime for the two years ending December 31, 1880, to be 1,001 scouts, 7 fights with Indians, 31 Indian trails followed, 5 fights with outlaws, 12 outlaws killed and 4 wounded, 685 fugitives from justice arrested, 67 courts attended by request of civil authorities, 67 jail and other guards furnished, 180 escorts, 152 other assistances to civil authorities, 1,917 horses and cattle recovered, and one Mexican child recovered.

The cost of maintaining the Frontier Battalion at an average strength of 165 men, for the year ending February 28, 1879, was \$123,492, or \$748 per man. The force of 107 men for the year ending February 29, 1880, cost the State \$70,770, or \$661 per man.

The cost of the force for 1880 was at the rate of \$626 per man, \$122 per man less than it was in 1878, the force having averaged 112 men during the year.

The number of children in the State of the age to attend the public schools, 264,252; amount of State fund apportioned, \$860,074. In the thirty-five principal cities and towns there are 18,346 white children and 6,924 colored, making a total of 25,270, or an average of 722 to each place. The amount apportioned

to pay for the maintenance of schools for these children is \$80,958.

The assessment rolls for 1881, footed up and summarized in the Comptroller's office, show a very satisfactory increase in the value of taxable property. They exhibit a valuation of \$348,626,347 for 1881, against \$311,470,736 for the previous year. This does not include assessments of the counties of Leon, Liberty, Maverick, Nueces, Kimble, and Tyler, which increase the aggregate to some \$357,225,011. Assessment of the lands in unorganized counties, amounting to about \$7,000,000, made at the Comptroller's office, will increase the taxable values to something over \$360,000,000. The increase in the revenue, at forty cents on the hundred dollars, is about \$200,000 on property, and about \$56,000 on polls.

Grayson is the most populous county in Texas, having 38,108 people. Galveston is the wealthiest, having \$17,741,550 assessed. Dallas is second in population, having 33,940 people. Bexar is second in wealth, having \$10,462,522 assessed. Harris is third in wealth, having \$9,995,811. Bexar is third in population, having 30,481 people. Dallas is fourth in wealth, having \$9,660,180. Fayette fourth in population, having 28,004 people. Harris fifth in population, having 27,715 people. Travis fifth in wealth, having \$9,121,131. Washington sixth in population, having 27,584 people. Grayson sixth in wealth, having \$7,643,375. Lamar, seventh in wealth, has \$7,312,560. Travis, eighth in population, has 26,975 people. Ellis is eighth in wealth, having \$6,371,883. Five of these counties are on the line of the Houston and Texas Central Railway.

Statement, showing the amount of bonded debt October 15, 1881; also annual interest October 15, 1881.

DATE OF ACT.	Rate of interest.	Outstanding October 15, 1881.	Annual interest October 15, 1881.
May 2, 1871.....	Six per cent.	\$67,000	\$4,020 00
December 2, 1871.	Seven per cent.	467,000	32,690 00
August 5, 1870 ...	Seven per cent.	499,000	34,930 00
March 4, 1874.....	Seven per cent.	780,000	51,100 00
July 6, 1876.....	Six per cent.	1,647,000	98,820 00
April 21, 1879.....	Five per cent.	1,077,500	53,875 00
April 21, 1879.....	Four per cent.	8,620	144 80
Total.....		\$4,491,120	\$275,579 80

The bonded debt has been reduced since January 1, 1881, \$505,800, making a difference in interest of \$34,500.

Of the debt as shown outstanding October 15, 1881, the special funds own, about \$2,044,100, leaving in circulation, and in the hands of individuals, \$2,447,020.

Railroad construction is making rapid progress in Texas. The following table exhibits the activity of construction in twelve months, and presents the name of the road, the number of miles in operation on September 1, 1880, the number of miles built during the year, and the number in operation at its close:

NAME OF ROAD.	In operation September 1, 1880.	Constructed since.	In operation September 1, 1881.
	Miles.	Miles.	Miles.
Houston and Texas Central.....	587	80	667
Texas Pacific.....	504	418	922
International and Great Northern.....	530	190	720
Galveston, Harrisburg and San Antonio	230	95	325
Missouri-Pacific.....	53	248	301
Gulf, Colorado and Santa Fé.....	164	132	296
Texas and St. Louis.....	128	180	258
East Line and Red River.....	108	16	124
Texas and New Orleans.....	106	..	106
Texas-Mexican.....	72	91	163
Gulf, Western Texas and Pacific.....	68	..	68
Houston, East and West Texas.....	66	22	88
Galveston, Houston and Henderson....	50	..	50
Texas Western.....	42	..	42
Montgomery Central.....	25	..	25
Rio Grande.....	22	..	22
Dallas and Wichita.....	20	19	39
Henderson and Overton.....	16	..	16
Galveston, Brazos and Colorado.....	15	..	15
Waxahachie Tap.....	12	..	12
Longview and Sabine Valley.....	12	..	12
Sabine Pass and Northwestern.....	11	..	11
Louisiana Western.....	6	..	6
Texas Transportation.....	8	..	8
Texas Trunk.....	..	50	50
Chicago, Texas and Mexican.....	..	20	20
Sabine and East Texas.....	..	23	23
Total.....	2,355	1,534	4,389

Of these the Texas and St. Louis, East Line and Red River, Texas-Mexican, Houston, East and West Texas, Texas Western, Galveston, Brazos and Colorado, Longview and Sabine Valley, and the Sabine Pass and Northwestern are narrow-gauge roads, the others of standard gauge.

In addition to the above, trains were running on the extension in Texas of the Atchison, Topeka and Santa Fé, from the State line west of El Paso, on the Rio Grande, to the town of El Paso—distance eight miles—there crossing into Mexico.

The California Southern Pacific—Huntington road—was also being pushed from El Paso east along the Rio Grande, and trains were running from El Paso to Fort Quitman, a distance of 85 miles.

On the 1st of September, 1880, there were in operation 2,401 miles of standard gauge and 454 miles of narrow gauge in the State; total, 2,855 miles. Constructed since, 1,275 miles of standard gauge and 259 miles of narrow gauge; total, 1,534 miles. Total in operation, 4,389 miles, of which 3,676 miles are standard gauge and 713 miles are narrow gauge. There have been chartered since September 1, 1880, the following lines and branches, with the mileage proposed:

	Miles.
Sabine Pass and Denison.....	320
Chicago, Texas and Mexican.....	440
Rio Grande and El Paso.....	60
New York, Texas and Mexican.....	200
San Antonio and Gulf Air-line.....	120
San Antonio and Border.....	140
Fort Worth and Rio Grande.....	135
Texas, Louisiana and Western.....	110
Sabine Pass and Texas Northern.....	205
Texas-Mexican branches.....	1,103
Gulf, Colorado and Santa Fé branches.....	140
Texas and St. Louis branches.....	220
Sabine and Western.....	80

	Miles.
Brought forward.....	3,273
St. Louis, Texas and Gulf of Mexico.....	295
Houston, Texas and Red River.....	420
Texas Western branches.....	1,510
Austin and Northwestern.....	170
Galveston and Eagle Pass Air-line.....	350
Galveston and St. Louis.....	345
Paris and Great Northern.....	28
Huntsville, New Orleans and Western.....	210
Austin and Southeastern.....	420
Total proposed miles.....	7,021

The above does not include mileage proposed under the amendments to the charters of the Houston and Texas Central and Texas Central.

It is estimated that in the twelve months \$19,000,000 were expended in the State in railway-building. The taxable values, besides this increase, permanently added to the wealth of the State by railways constructed, amount to over \$20,000,000, and the resultant increase in value of other property must also be very great. The increase in population can not be estimated, but has been very large.

At the close of the war Texas had 330 miles of railway in operation, and from that time until 1868 had been constructed only 183 miles. At the beginning of each year following there was up to January, 1880, the number of miles in operation indicated in the annexed table, viz.:

	Miles.		Miles.
January 1, 1868.....	513	January 1, 1876.....	1,695
January 1, 1869.....	513	January 1, 1877.....	2,031
January 1, 1870.....	583	January 1, 1878.....	2,210
January 1, 1871.....	711	January 1, 1879.....	2,423
January 1, 1872.....	865	January 1, 1880.....	2,591
January 1, 1873.....	1,073	September 1, 1880.....	2,855
January 1, 1874.....	1,573	September 1, 1881.....	4,389
January 1, 1875.....	1,650		

EARNINGS OF RAILWAYS, BY LAST REPORTS TO THE ROADS. STATE COMPTROLLER.

	Earnings.
Texas and Pacific.....	\$2,714,157 74
International and Great Northern.....	1,862,194 18
Texas Central.....	53,612 36
Gulf, Colorado and Santa Fé.....	166,108 10
Central and Montgomery.....	24,029 88
Waxahachie Tap.....	22,223 05
Rio Grande.....	118,138 42
Henderson and Overton.....	28,569 61
Galveston, Houston and Henderson.....	452,910 57
Texas Transportation.....	59,205 81
Louisiana Western.....	1,962 00
Missouri Pacific.....	258,361 46
Houston, East and West Texas.....	95,508 05
Gulf, Western Texas and Pacific.....	140,588 78
East Line and Red River.....	131,176 86
Houston and Texas Central.....	3,605,359 06
Georgetown.....	13,998 31
Longview and Sabine Valley.....	6,950 42
Galveston, Harrisburg and San Antonio.....	1,334,783 80
Texas and New Orleans.....	293,469 25

Total..... \$11,833,802 21

Several railway companies failed to send in reports.

Accurate data are not at hand to show the tonnage carried by the Texas lines during the year, but it is very close to 6,850,000 tons. The number of cars owned by the roads is 8,355. Number of miles run during the year, about 9,354,800. In the busy season, probably 5,000 cars are daily in motion over the several roads. There are 210 railway stations in Texas of over 200 inhabitants each. The population of the cities, towns, and stations, on all the Texas railroads, is 247,233.

The Gould system of roads, as connected

with Texas, includes the Missouri-Pacific, the Iron Mountain, Texas and Pacific, International and Great Northern, Galveston, Houston and Henderson, Dallas and Wichita, and East Line and Red River, and at this time consists in Texas of the following mileage under one and the same management, viz.: Texas and Pacific, 922 miles; International and Great Northern Railroad, 720 miles; Missouri-Pacific, 302 miles; Galveston, Houston and Henderson, 50 miles; Dallas and Wichita, 39 miles; and the East Line and Red River Narrow-Gauge, 124 miles. Total, 2,167 miles—or nearly half the whole mileage of the State, and more than half the miles of standard gauge. This system of roads is managed under the name of the International Railway Improvement Company.

The Southern Pacific system comprises in Texas, as at present organized and completed, the Louisiana Western, 6 miles; Texas and New Orleans, 106 miles; Galveston, Harrisburg and San Antonio, 325 miles, and, projected and being rapidly graded and ironed, the Southern Pacific, eastward from the Texas line near El Paso to meet the Galveston, Harrisburg and San Antonio, extending westward, which meeting was expected to take place before the close of 1881.

Within two years, forty-one additional towns of commercial importance have been reached by rail or have sprung into existence; and the value of the State's products has increased from \$57,820,141 in 1878-'79, to \$95,960,930 in 1880-'81.

ESTIMATE OF THE COTTON-CROP OF TEXAS FOR THE YEAR
1880-'81.

	Bales.
Houston and Texas Central, transported.....	435,457
Galveston, Harrisburg and San Antonio	98,381
International and Great Northern.....	241,836
Gulf, Colorado and Santa Fé.....	61,619
Texas Western.....	2,531
Texas and Pacific.....	296,612
Missouri-Pacific	30,101
Texas and St. Louis.....	27,872
Texas and New Orleans	12,536
Gulf, Western Texas and Pacific.....	15,060
To Shreveport by wagon.....	24,000
Crossed to Mexico.....	7,000
Crossed the Sabine to Lower Red River.....	8,600
Corpus Christi cotton.....	125
Houston local wagon receipts.....	4,015
Galveston receipts by small water-craft.....	4,465
Houston East and West Texas (estimated).....	4,176
East Texas Railroad.....	293
Indianola.....	824
Galveston, Houston and Henderson road.....	134
Total.....	1,260,247

The following is an exhibit of the amount and values of different articles:

Cotton, 1,260,247 bales.....	\$56,711,115
Wool, 20,671,889 pounds.....	4,754,522
Hides, 12,262,052 pounds.....	1,471,446
Cattle, 781,874 head (including drive).....	15,923,013
Horses and mules, 23,175 head.....	1,408,750
Grain, 39,665 car-loads.....	6,941,375
Lumber, 278,609,542 feet.....	5,572,191
Cotton-seed cake and oil.....	1,242,315
Miscellaneous products	1,344,723
Sugar and molasses.....	591,470
Total.....	\$95,960,930

At the close of the commercial year ending August 31, 1879, the State's products were estimated and valued as follows:

Cotton, 951,093 bales.....	\$38,043,720
Cattle, 562,196 head.....	8,241,903
Horses, 37,860 head.....	473,250
Wool, 14,563,920 pounds.....	2,913,784
Hides, 23,104,065 pounds.....	2,810,406
Lumber and shingles.....	1,349,691
Wheat, 2,500,000 bushels.....	2,375,000
Cotton-seed cake and oil.....	506,063
Sugar and molasses.....	433,960
Miscellaneous products.....	672,364

Total..... \$57,820,141

The wholesale trade of Galveston for the year ending July 31, 1881, amounted to \$28,603,000. The exportation of cotton direct to foreign countries increased from 294,551 bales in 1880 to 477,452 bales in 1881. The total value of exports increased from \$16,710,574 in 1880, to \$27,020,439 in 1881—exceeding in value by \$10,000,000 the exportations of any previous year. It was estimated that the spring cattle-drive from Texas would number 239,300 head. This does not include the beef-cattle driven from Northwestern Texas and the Panhandle, which it was estimated would reach 4,000 car-loads, or about 90,000 head.

An election was held on the 6th of September, when a vote was taken on two proposed amendments to the State Constitution, and to determine the site of the State University; also on the question whether the medical department should be separated from the main university. One of the amendments affects the judiciary, and the other the Legislature. The judiciary article and acts then in force divided the Supreme Court into several bodies, employing in all nine judges. The amendment provided for one chief-justice and six associate justices, to constitute the Supreme Court, which shall have jurisdiction in all civil and criminal appeals. The jurisdiction of district courts was enlarged by the amendment, while the powers of the lower courts were curtailed. The other constitutional amendment provided for a change in the legislative system. Legislators received, during regular sessions, five dollars per diem for sixty days, and two dollars thereafter. The amendment proposed that Legislatures might sit, without such limitation, for one hundred days. The first amendment was defeated, the vote for it being 20,149, and against it 36,647; the second was also defeated, the vote being 12,493 for, and 44,569 against. For separating the university there were 38,117 votes, and against separation 18,363. Galveston was chosen as the site of the main university by a vote of 30,913. Its chief competitors were Tyler, 18,974; Waco, 9,799; Thorp Springs, 3,217; and Lampasas, 2,829. For the site of the medical department, Galveston was selected by a vote of 29,741 to 12,586 for Houston, its chief competitor. The Regents of the University met in Austin on the 15th of November, and established the several departments of the institution, adopted a general plan for a university building, and appointed a committee to ascertain what structures will be needed for the medical department, and provide the same.

The population of Texas by counties, as finally reported by the census for 1880, and as compared with the returns for 1870, is as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Anderson.....	17,895	9,229	Gaines.....	8	.....	Milam.....	18,659	8,984
Angelina.....	5,239	3,985	Galveston.....	24,121	15,290	Mitchell.....	117	.....
Aransas.....	996	.....	Garza.....	86	.....	Montague.....	11,257	690
Archer.....	596	.....	Gillespie.....	5,228	3,566	Montgomery.....	10,154	6,488
Armstrong.....	81	.....	Goliad.....	5,832	3,628	Morris.....	5,082	.....
Atascosa.....	4,217	2,915	Gonzales.....	14,840	8,951	Motley.....	24	.....
Austin.....	14,429	15,087	Gray.....	56	.....	Nacogdoches.....	11,590	9,614
Bandera.....	2,153	649	Grayson.....	38,108	14,387	Navarro.....	21,702	8,879
Bastrop.....	17,215	12,230	Gregg.....	8,580	.....	Newton.....	4,359	2,187
Baylor.....	715	.....	Grimes.....	18,603	13,218	Nolan.....	640	.....
Bee.....	2,298	1,082	Guadalupe.....	12,202	7,282	Nueces.....	7,673	3,975
Bell.....	20,518	9,771	Hall.....	36	.....	Oldham.....	257	.....
Bexar.....	30,470	16,043	Hamilton.....	6,565	733	Orange.....	2,938	1,255
Blanco.....	3,588	1,187	Hansford.....	18	.....	Palo Pinto.....	5,885	.....
Borden.....	35	.....	Hardeman.....	50	.....	Panola.....	12,219	10,119
Bosque.....	11,217	4,981	Hardin.....	1,870	1,460	Parker.....	15,870	4,186
Bowie.....	10,965	4,634	Harris.....	27,859	17,375	Pecos.....	1,807	.....
Brazoria.....	9,774	7,527	Harrison.....	25,177	13,241	Folk.....	7,189	8,707
Brazos.....	13,576	9,205	Hartley.....	100	.....	Potter.....	28	.....
Briscoe.....	12	.....	Haskell.....	48	.....	Presidio.....	2,973	1,636
Brown.....	8,414	544	Hayes.....	7,555	4,058	Rains.....	3,035	.....
Burleson.....	9,213	8,072	Hemphill.....	149	.....	Randall.....	3	.....
Burnet.....	6,855	3,638	Henderson.....	9,735	6,786	Red River.....	17,194	10,658
Caldwell.....	11,757	6,572	Hidalgo.....	4,347	2,387	Refugio.....	1,555	2,324
Calhoun.....	1,739	3,443	Hill.....	16,554	7,453	Roberts.....	32	.....
Callahan.....	3,453	.....	Hood.....	6,125	2,585	Robertson.....	22,323	9,990
Cameron.....	14,959	10,999	Hopkins.....	15,461	12,651	Rockwall.....	2,984	.....
Camp.....	5,931	.....	Houston.....	16,702	8,147	Runnels.....	980	.....
Cass.....	16,724	8,575	Howard.....	50	.....	Rusk.....	18,956	16,916
Chambers.....	2,187	1,503	Hunt.....	17,230	10,291	Sabine.....	4,161	3,256
Cherokee.....	16,723	11,079	Hutchinson.....	50	.....	San Augustine.....	5,084	4,196
Childress.....	25	.....	Jack.....	6,626	694	San Jacinto.....	6,186	.....
Clay.....	5,045	.....	Jackson.....	2,723	2,278	San Patricio.....	1,010	602
Coleman.....	3,603	847	Jasper.....	5,779	4,218	San Saba.....	5,824	1,425
Collin.....	25,983	14,013	Jefferson.....	3,489	1,906	Scurry.....	102	.....
Collingsworth.....	6	.....	Johnson.....	17,911	4,923	Shackelford.....	2,037	455
Colorado.....	16,673	8,326	Jones.....	546	.....	Shelby.....	9,523	5,732
Comal.....	5,546	5,233	Karnes.....	3,270	1,705	Smith.....	21,863	16,632
Comanche.....	8,608	1,001	Kaufman.....	15,448	6,885	Somervell.....	2,649	.....
Concho.....	800	.....	Kendall.....	2,763	1,566	Starr.....	8,304	4,154
Coche.....	20,391	5,815	Kent.....	92	.....	Stephens.....	4,725	931
Coryell.....	10,924	4,124	Kerr.....	2,168	1,042	Stonewall.....	104	.....
Cottle.....	24	.....	Kimble.....	1,343	72	Swisher.....	4	.....
Crockett.....	127	.....	King.....	40	.....	Tarrant.....	24,671	5,781
Crosby.....	82	.....	Kinney.....	4,487	1,204	Taylor.....	1,736	.....
Dallas.....	33,483	13,814	Knox.....	77	.....	Throckmorton.....	711	.....
Dawson.....	24	.....	Lamar.....	27,193	15,790	Titus.....	5,959	11,539
Deaf Smith.....	33	.....	Lampasas.....	5,421	1,344	Tom Green.....	3,615	.....
Delta.....	5,597	.....	La Salle.....	789	69	Travis.....	27,028	13,153
Denton.....	18,143	7,251	Lavaca.....	13,641	9,168	Trinity.....	4,915	4,141
De Witt.....	10,082	6,443	Lee.....	8,937	.....	Tyler.....	5,825	5,010
Dickens.....	23	.....	Leon.....	12,817	6,523	Upshur.....	10,266	12,039
Dimmit.....	655	109	Liberty.....	4,999	4,414	Uvalde.....	2,541	851
Donley.....	160	.....	Limestone.....	16,246	8,591	Van Zandt.....	12,619	6,494
Duval.....	5,732	1,033	Lipscomb.....	69	.....	Victoria.....	6,289	4,860
Eastland.....	4,855	83	Live Oak.....	1,994	852	Walker.....	12,024	9,776
Edwards.....	266	.....	Llano.....	4,962	1,379	Waller.....	9,024	.....
Ellis.....	21,294	7,514	Lubbock.....	25	.....	Washington.....	27,565	23,104
El Paso.....	3,845	3,671	Lynn.....	9	.....	Webb.....	5,273	2,615
Encinal.....	1,902	427	McCulloch.....	1,533	173	Wharton.....	4,549	3,426
Erath.....	11,796	1,801	McLennan.....	26,934	13,500	Wheeler.....	512	.....
Falls.....	16,240	9,851	McMullen.....	701	230	Wichita.....	438	.....
Fannin.....	25,501	13,207	Madison.....	5,395	4,061	Wilbarger.....	126	.....
Fayette.....	27,936	16,863	Marion.....	10,983	8,562	Williamson.....	15,155	6,368
Fisher.....	136	.....	Martin.....	12	.....	Wilson.....	7,118	2,556
Floyd.....	3	.....	Mason.....	2,655	673	Wise.....	16,601	1,450
Fort Bend.....	9,380	7,114	Matagorda.....	3,940	3,377	Wood.....	11,212	6,894
Franklin.....	5,230	.....	Maverick.....	2,967	1,951	Young.....	4,726	135
Freestone.....	14,921	8,139	Medina.....	4,492	2,073	Zapata.....	3,636	1,488
Frio.....	2,130	309	Menard.....	1,239	667	Zavalla.....	410	133
The State.....							1,591,749	818,579

On the 9th of November the State Capitol was destroyed by fire. Nearly all the State records were saved, as were also the plans of the new Capitol which was about to be built.

The number of penitentiary convicts in the State, as shown by the report of the commissioner, is 2,157. The number in December, 1878, was 1,738. The present distribution of convicts is as follows:

In the penitentiary walls.....	842
On railroad construction trains.....	156
Engaged in prison construction at Rusk.....	256
In wood-cutting camps.....	215
At Kelly's iron-furnace.....	104
On plantations.....	1,033
Miscellaneous.....	89

The lessees pay for each convict \$3.01, making for twenty-three months a sum total of \$136,321.65, more than \$5,000 per month. The amount to be paid out by the State for im-

provements on the prison at Huntsville and building the new prison at Rusk is \$182,-076.37.

In the Deaf and Dumb Asylum there are 80 pupils in attendance, 50 boys and 30 girls, while the capacity of the institution is 100. It requires an expense of \$220 per capita to support the pupils.

THOUSAND ISLANDS, OR ISLES, a group of rocky and wooded isles and islets in the river St. Lawrence, beginning at the point where the river emerges from Lake Ontario, above Kingston, and extending to Brockville, where it first narrows and begins to follow a regular stream-bed. The expanse which is studded with these isles is called the Lake of the Thousand Islands. It is about sixty miles long, and in places nine miles broad. The isles, great and small, are between 1,600 and 1,800 in number. In the Treaty of Ghent the number is stated to be 1,692. Several of them are of considerable size, and contain valuable farming-lands. The boundary-line of 1818 does not follow the middle of the river, but is deflected so as to leave Wolfe and Howe Islands in the British dominion, giving Carleton, Grindstone, and Wells Islands to the United States. Wolfe Island, the largest of the archipelago, forms a fertile agricultural district containing 9,000 acres. It is thickly peopled, and is connected by a steam ferry with Kingston. The most westerly island of the group, Amherst Island, lies well out in the lake. It contains 5,000 acres of cultivated land. Carleton Island, on which in the time of the Revolutionary War the British erected a strong fortress on the site of former French fortifications, contains 1,274 acres. The fortress, which was called the King's Garden, was taken by the Americans in the War of 1812, and destroyed. Grenadier Island has a dairy farm, and on several of the larger islands co-operative dairying is carried on with success.

The Thousand Islands are visited by large numbers of persons in the warmer months of the year, attracted by the picturesque scenery, the cool air which is always stirring, and the opportunities for sport. The fishing and fowling facilities of this region are celebrated. The largest muskallonge, pike, black bass, and pickerel are caught among these islands. Alexandria Bay, a village on Wells Island, is the chief resort. It contains large hotels and the Church of the Thousand Islands, a handsome structure, with detached belfry in the Italian style. On many of the islets in this vicinity are private cottages and villas, some of them of considerable architectural pretensions. Visitors also stop at Clayton, on the American, and Gananoque, on the Canadian side, and many pitch tents on the islets. The last of the larger islands is Bathurst Island. The current of the river is swift and tortuous among these islands. The Thousand Islands are reached from Kingston on the Canadian side, and from Cape Vincent on the American side.

TRELAWNEY, EDWARD JOHN, the friend and biographer of Byron and Shelley, was born in the south of England, March 10, 1792; died at Sompting, a small village near Worthing, in Sussex, England, August 13, 1881. He was a younger son of a well-known Cornish family, and from his earliest years lived a life of strange adventure and reckless daring, which he describes in that most exciting narrative, "The Adventures of a Younger Son," his first literary work, published in 1830. Before that time, Captain Trelawney had roamed over the wide world. Soon after leaving college he met with Shelley's "Queen Mab," and from that time Shelley was his deity. In the winter of 1821-'22 he made the personal acquaintance of Byron and Shelley, at Pisa and Spezia. Swimming he had previously learned from the natives of the South Seas, and both in swimming and shooting he surpassed Lord Byron himself. It was Trelawney who directed the burning of Shelley's remains on the sea-shore, and it was Trelawney who distributed small portions of his ashes to Byron, Leigh Hunt, and others, and who bought a resting-place for the poet's remains in the Protestant burial-ground at Rome. After these events he went with Byron to Greece, and shared in its efforts for independence, carrying a musket-ball in his body for fifty-six years as a memento of that struggle. Some of the most stirring events in his volume published in 1858, entitled "Records of Shelley, Byron, and the Author," relate to Trelawney's life in the caves on Parnassus, and to his curious escapes from friend and foe. On taking the field, Odysseus, the Greek leader, deposited his family in his retreat on Mount Parnassus, which he confided to the care of Captain Trelawney, who had recently married his daughter. Half a century ago he drifted to the New World, spending some six months in traveling through the United States and Canada. Among his American friends were Fitz-Greene Halleck, and General Patterson, of Pennsylvania, who was fond of relating that on visiting the eccentric Trelawney at Jones's Hotel, in Philadelphia, he found him sitting up in bed, eating apple-sauce out of a huge bowl and drinking quarts of milk, that comprising his twelve-o'clock breakfast. Like his beloved Shelley, he preferred a diet consisting of fruit and vegetables, and he never made use of any description of hot food or drink. Trelawney was a singularly abstemious person, indulging in but one solid meal a day, and rarely drank anything but milk and water. In "The Adventures of a Younger Son" he describes certain wild episodes of his own strange career, when a wanderer in the far East. He was on terms of intimacy with Baron Kirkup, "the last of the alchemists," who lived so long in and near Florence, Italy. In youth Captain Trelawney was remarkable for his manly beauty, and at eighty-three, when the writer last met him in London, he was still of a striking and commanding presence, with

bushy gray beard and hair, clear aquiline profile, strong, deeply recessed, grayish-blue eyes, with an expressive, half-smiling, half-sneering mouth. The figure of the aged Arctic voyager in Millais's celebrated picture, "The Northwest Passage," is a portrait of Trelawney; but it does not fairly represent the character and bearing of the man, which seemed more like the stern old type of the Scandinavian seapirate—a pirate, perchance, charmed into humanity and gentleness by the spiritual beauty of Shelley's genius. Certainly no Norse king ever had a more powerful voice or hand. To the end he wore neither overcoat nor flannel under-clothing, and had never, so he said, been sick. He died, at last, without disease, simply from old age—the sole survivor, save one, of the group of friends who were the companions of Byron and Shelley at Spezzia sixty years ago. That one is Shelley's Jane, to whom those fine lines of his last year, "The Recollection," and "Jane with a Guitar," were addressed. She still lives, and has been twice married, her first husband, Captain Williams, having been lost with Shelley. Many years afterward his widow married Mr. Hogg, Shelley's first and most intimate friend, who left Oxford in disgust when the gifted author of "Queen Mab" was expelled. In Trelawney's house, among his most highly prized treasures, hung the guitar which Shelley bought at Pisa and presented to Mrs. Williams with the exquisite verses. It long hung on his library-wall, mute and with broken strings, but the cause of melody which will continue to echo through many centuries to come. Some months before his death Captain Trelawney expressed a wish that his body should be burned, and that his ashes should be buried at Rome, by the side of those of Shelley. Accordingly, after his death, cremation not being permitted in England, his body was embalmed and placed in a zinc coffin, in which it was removed to Gotha, Germany, where it was burned, fourteen days after his death. A week later his ashes were laid in their last resting-place, in the Protestant Cemetery at Rome, near those of his friends, Shelley, the poet Keats, and the artist Joseph Severn. The twin monuments over the two latter were unveiled in March, 1882, on which occasion William W. Story, the American sculptor, rendered a fitting tribute to the four friends, of whom Trelawney was the last survivor. He had no surviving children, and Mrs. Trelawney died many years ago, after which event his household was presided over by an adopted niece, Miss Emma Taylor, to whom Trelawney left all his property, including many valuable souvenirs of Shelley, Keats, and Lord Byron.

TURKEY. The Eastern question entered upon a new phase after the accession of the Liberal ministry in England. The triangular antagonisms of Russian, Austrian, and British interests and ambitions in the Balkan Peninsula became acute, and the European concert

was at an end. The other great powers were on the alert to defend and aggrandize their national interests in the impending permutations. The British interests in Egypt, and the French and Italian rivalry on the Barbary coast, were more or less involved. England, having checked the Russian advance to Constantinople under Disraeli, under the guidance of Gladstone saw her vital interests threatened by the advance of Austrian power to the *Ægean*. Before coming into office, Gladstone had uttered the warning of "Hands off!" to Austria, and his foreign policy was chiefly directed to heading off the progress of Austrian interests in that direction. This he sought to accomplish, not by the old policy of bolstering up the declining strength of the "sick man" in Stamboul, but by forming a buttress of the "interesting nationalities" of the Balkans, and by strengthening Greece and preventing this "country with a future" from being absorbed and amalgamated through too long "waiting," with its intelligent race of merchants and sailors, and its commanding mercantile and naval position, into the looming military and commercial power which would dominate the eastern Mediterranean, when once established in the harbors of the *Ægean*. The interests of Austria were already coming into actual collision with British interests in all the old provinces of Turkey in Europe, which had always been commercially tributary to Great Britain. The immediate interest of Great Britain therefore coincided with the purposes of Russia in checking the extension of Austrian influence on the lower Danube, as well as in the direction of the Gulf of Salonica. An entirely new development in the Eastern question was the active participation of Germany. The "moral" support which Germany had given Russia in the Turkish War, whether in discharge of a debt of gratitude for the neutrality of Russia in the French War, or for other reasons, was now cast in the other scale. The rivalry of German and Slavic interests had become more pronounced throughout the entire length of Eastern Europe. The interests of Germany and Austria were felt to be absolutely identical. The Eastern question, which, Bismarck had once said, involved no German interest "worth the bones of a Pomeranian musketeer," acquired an importance which was not concealed, and the German Chancellor placed himself in a position to act as the arbiter of Europe. The sooner Austria becomes established as a Slavic power, under German influence, on the lower Danube, on the *Ægean*, and possibly at Constantinople, the sooner the German provinces of Austria and Russia will be brought into the German Empire, and Germany herself, falling heir to the Austrian position on the Adriatic, can commence a career as a Mediterranean power. Such was the attitude of the powers when England commenced her tactics to overthrow the Berlin Treaty with the Berlin protocol.

With the assistance of the energetic Prussian agent, Wettendorf, the Turkish Government, by stripping the Ottoman subjects of their last possessions and collecting the taxes for 1881 and 1882 in advance, had, by the beginning of 1881, scraped together the means of maintaining an effective army of 100,000 men. The Porte pursued its old policy in the Greek boundary question of temporizing and delaying, hoping that the conflicting interests of the great powers would again break up the European concert. The Sultan differed greatly, in his strong will and active mind, from his predecessors, and was prepared to defend, with Turkish obstinacy and Mohammedan fanaticism, the Ottoman power in Europe. The old ally of the Sultan, Great Britain, seemed ready to give the signal for Greece to seize Epirus and Thessaly, for the Albanians to throw off the Turkish yoke, and for the Bulgarians to descend upon Roumelia. The Austro-German alliance was alone interested in preserving the *status quo*. The Gambettists, in France, were disposed to seize the opportunity which the general conflagration would afford, for again acquiring for their country a controlling position in the councils of Europe. The majority of the French Cabinet, on the other hand, were willing to listen to the counsels of Germany, and when Bismarck assured them that the French occupation of Tunis would be approved, with or without the leave of England, France came forward as the spokesman of the powers desirous of maintaining the *status quo* in the singularly phrased note of Barthélemy Saint-Hilaire, dated December 24, 1880. In this document the dangers threatening the peace of Europe were depicted in somber colors. Greece, in demanding the fulfillment of the Berlin protocol, was blamed for frivolously attempting to provoke a European war without having any just basis for her demands, and the cue was given to Turkey to continue her refusals, by describing the terms of the protocol as simply the advice of the powers to Turkey, and not an arbitration of the question. When the French Government reminded the English Cabinet of the promised acquiescence of their predecessors in the annexation of Tunis, the English ministers sought to involve the French in a difficulty with the Porte, by declaring that Tunis stood under the suzerainty of the Sultan.

The remedy proposed by the French Minister of Foreign Affairs, for the dangers of the situation, was a court of arbitration. The Greeks refused to submit their claims a second time to arbitration, and made preparations ostentatiously for the invasion of Epirus and Thessaly, at the end of March. Turkey fortified Arta, Yanina, and the historical passes which lead from Greece into the Thessalian plain, sank torpedoes in the Dardanelles strait, and called the *redifs* to their colors, but withheld from hostilities, although able to crush the presumptuous Greeks. Both were in the hands of Europe, but, while Greece was seek-

ing to obtain a better settlement by threats of war and a display of national spirit and military ardor, Turkey took the strong defensive ground left open to her by the French note, and expressed a willingness to make concessions in order to preserve peace and satisfy Europe. A compromise had already been offered by the Porte, in the note of October 3, 1880, in explicit terms.

A circular note was sent out by Assim Pasha on the 14th of January, in which the six signatory powers were invited, in view of the dangers to the peace of Europe and the critical relations between Turkey and Greece, resulting from the precipitate armament of the Greeks, to authorize their representatives in Constantinople to confer with the Sublime Porte on the question. The proposal was accepted by the powers, and the conference between the ambassadors and the ministers of the Porte resulted in an arrangement which was laid before the Greek Government on the 8th of April. The Greeks accepted this very advantageous settlement under protest, and with the threat that they would redeem the rest of the territory to which they laid claim at the first opportunity. The powers declared that they would assist in carrying out the stipulations of the convention, and make it their own affair that the Porte should not evade the agreement. The districts of Larissa, Volo, and Trikhala, in Thessaly, and Arta and Punta in Epirus, were ceded to Greece. The territory comprised 265 square miles, including a great part of the fertile plains of Thessaly, and contained 388,000 inhabitants, among them 48,000 Mohammedans. The evacuation took place by zones, and was concluded by the transfer of Volo on November 14th. Military commissioners of the powers supervised the operations. A dispute occurred at the last moment concerning the stipulation that the boundary should follow the water-partings, which the commissioners took to mean the crest of the mountains, but which the Porte insisted on having construed literally. (For particulars of the negotiations, see GREECE.)

The Tunisian affair, and afterward the Egyptian difficulty, gave the Sultan occasion to make an empty protest of his nominal sovereignty in those lost regencies. This course was favored by England for reasons of policy. Since the time of Lord Palmerston the Government of England, when in Liberal hands, has been accustomed to shield its interests in North Africa against the aggressions of other powers behind the fiction of the suzerainty of the Sultan. Abdul-Hamid, however, in asserting his legal rights as lord paramount, though supported by Lord Granville, who was a pupil of Palmerston in diplomacy, was actuated by the Pan-Islamic aspirations to which his mind was doubly susceptible through his religious character and his personal ambition. A formal correspondence was carried on with France regarding her interference in Tunis, and the undeniable legal

proofs of the Sultan's suzerain relations to the Bey were given; but no power gave effective support to the demand, and nothing resulted but a coolness between France and the Porte. The Sultan sent two commissioners on a secret mission into Egypt, of his own motion, during the crisis, but they were soon recalled. There were signs of a *rapprochement* between the Khedive and the Sultan, but the idea of placing himself under the protection of the Sultan and becoming again a vassal could only have been entertained for a moment by the Viceroy.

The reign of Abdul-Hamid is characterized by an extreme departure from the methods of government which have prevailed at Stamboul. This ambitious, energetic, and devout Sultan has undertaken the personal direction of all the affairs of the empire. The Sublime Porte, which has been the governing body for centuries, is entirely effaced; the ministers are divested of all authority and reduced to the position of simple clerks, and everything hangs upon the word of Abdul-Hamid. The consequence is, that the secret and irregular influences, which were formerly powerful enough in the minor departments of public life to seriously interfere with the proper workings of government, now control the whole administration. The Sultan, though possessing an acute and active mind, is entirely wanting in the calm judgment, a definite policy, and resolute purpose which are requisite for the course he has chosen. He has discarded the organization by which the government has been carried on, and has established no other effective system. By resorting to irregular methods, he has no regular and reliable sources of information or instruments for carrying out his resolves. The result is endless confusion, vacillation, contradiction, and cross-purposes. The fear of conspiracy and assassination has possessed his mind for a year or two, and an easy means of gaining favor with Abdul-Hamid has been the familiar device of pretending to unearth some desperate revolutionary or murderous plot against him. The disastrous delay in carrying out the provisions of the Berlin Treaty in the Greek and Montenegro boundary adjustments; the alternate encouragement and repression of the Albanian movement, which has exhausted the loyalty of that brave and vigorous race; the impotent assertion of suzerainty in Egypt and Morocco; and the fomentation of the hopeless Panislamic propaganda, which make the Porte the tool of European diplomatists and Oriental intriguers, to the prejudice of the best interests of Turkey—all originated with Abdul-Hamid. Officials of all grades are constantly being changed about or dismissed by order of the Sultan. Many young and inexperienced persons have superseded old officers. This active interference in the administrative departments is due largely to the Sultan's earnest desire to root out the abuses and corruption of the Turkish administration, but produces greater confusion and inefficiency.

Ministers were dismissed for unknown causes several times during 1881. Said Pasha, the Prime Minister, has retained his post, and is considered indispensable, though not as the responsible adviser of the Sultan, who has many counselors of all sorts and conditions, and acts usually on roundabout and private information. Haunted by fears of assassination, Abdul-Hamid remains secluded in his small kiosk. He is extremely regular and temperate in his private life, and modest in his expenditures.

A fruit of the continuous dread of revolution, conspiracy, and murder, which haunted the Sultan was the arrest, trial, and conviction of the former Grand Vizier and celebrated statesman, Midhat Pasha, on the charge of having murdered the Sultan Abdul-Aziz. Abdul-Hamid stood in fear of his dethroned brother and Midhat Pasha, who he thought were conspiring against him. The latter, who had long been Governor-General of Syria, took refuge at the French consulate when he heard of his intended arrest. The latter delivered him up to the Turkish authorities upon the instructions of Barthélemy Saint-Hilaire, who had obtained the acquiescence of the European cabinets. Midhat was confronted on his trial by two witnesses (two wrestlers who were in the service of the Sultan at the time of his death). From these men a confession had been extracted to the effect that they had been employed by Midhat Pasha to murder the deposed Abdul-Aziz. The real story of Abdul's death, as related by many witnesses, was that he committed suicide with his mother's shears in an inner room of the harem a few moments after sending for the shears. Midhat Pasha was denied every opportunity for a legal defense, and, with scarcely a semblance of a judicial trial, in the first instance and on appeal, was convicted of murder and sentenced to death. On the vigorous protestation of the British Government, the sentence was commuted to banishment to Arabia.

The methods by which the money was raised to support the large military forces which were held in readiness at the sea-ports and in the Greek provinces, were of the most various description. The bankers of Galata would make no advances without guarantees, which the Government was unable to give. The people were stripped of their stores, and even of their utensils, wherever the authority of the Sultan was still enforced. The produce was reckoned at only one third its marketable value, but no more than its value reached the treasury. In Constantinople, where the privileges of the harem facilitated the concealment of valuable personality, the real-estate tax was levied for three years in advance in the form of a forced loan at ten per cent interest, and a poll-tax was imposed on every male inhabitant in three classes—one Turkish pound (= \$4.30), one half a pound, and twenty piasters (one piaster = 4.3 cents).

The plundering system of public finance is one of the chief causes of the dissolution of the Turkish Empire. The burdens of the Russian wars, the commercial privileges exacted by the European nations after they got Turkey in their grasp, and the exorbitant profits of the European and Greek money-lenders and financial go-betweens, all combined, have not been as exhaustive as the financial drain on the resources of the people caused by the legal and illegal extortions of the *effendi* officials. The Mohammedan races are beginning to long for release from the yoke of the sultanate as earnestly as the Christians; and when the belief that the Sultan is powerless in the hands of the Giaours, to which the frequent intervention of the powers has given rise, once becomes settled, then the reverence for the Caliph will vanish, and the last prop fall from under the Ottoman Empire.

The creditors of the Turkish Government organized an onset, under the auspices of British diplomacy, for the purpose of obtaining substantial guarantees for the payment of the interest and principal of their bonds. A meeting of the largest bondholders was held in London, and a committee appointed to go to Constantinople and secure or obtain the acceptance of a scheme of liquidation. The committee suggested to the Porte that certain revenues should be reserved for the payment of the interest. It was proposed to apply the receipts from customs and monopolies to this object. The Turkish Government raised no serious objections; but the creditors found, on examining the matter, that there were no assets in the Treasury. Russia raised an objection to the appropriation of the Bulgarian tribute to this purpose, claiming that it was reserved for the payment of the war indemnity. The committee finally proposed that the supervision of the collection of the taxes and the general administration of specific provinces be given to them. This was tantamount to the system of comptrol introduced in Egypt. Russia, to checkmate any design of the British Government to establish such an administrative control in any part of Turkey, now made a formal demand that terms should definitely be made for the payment of the Russian war indemnity of £35,000,000, and proposed, in lieu of other guarantees, to administer some province of Turkey—Armenia, for example—and collect the taxes for the payment of her claim.

The first question which came up between the bondholders and the Porte was the amount

of the debt. The amount of the funded debt is £191,000,000, without deducting the portions which fall to the share of Greece and the detached provinces. The Porte demanded that the interest should be reckoned only on the portion which properly belongs to Turkey, which is £165,060,000. The conclusion of the negotiations was an agreement of the Porte to place certain revenues at the disposition of the bondholders, and to allow them a portion of the proceeds of the salt and tobacco monopolies. The nominal value of the debt was scaled down to about £100,000,000, some of the loans being reckoned at fifty per cent or less of their face value, to wit, the *Dette Générale* and the lottery loan, while the loan of 1873 was rated at 55½ per cent of its nominal value. The interest to be paid on the reduced nominal value of the debt was fixed at a maximum rate of four per cent, and the maximum annual reduction of principal at one per cent. The specifications of the agreement are to be executed under the direction of an administrative council representing the bondholders at Constantinople.

The Albanian League, which constituted the rebel organization, first appeared on the scene during the negotiations preceding the Treaty of San Stefano in 1878. The Mussulman Arnauts of the Sandjak of Prizrend, perturbed at the prospect of the enlargement of Montenegro, Servia, and Bulgaria at the expense of Albania, met to consider what course they would take. The heads of the clans took the national oath—the *Vessa*—together in April, that no acts of blood-revenge would be committed, and all quarrels should have a truce till St. Demetrius's Day; that every clan should get together sufficient quantities of arms, munitions, and provisions, and that for the present no recruits should be furnished to the Government or taxes paid. In Prizrend a grand council of all the chiefs was held, and the constitution of the League was drawn up and signed by forty-seven Mussulman delegates, calling themselves the Committee of National Defense. This document stated that the League was formed for the purpose of defending the integrity of the national territory, and of excluding every government except that of the Sublime Porte. The League constituted itself a provisional government, which superseded the authority of the Sultan where necessary. All who opposed its purposes, and all who deserted it, were threatened with punishment. Some conflicts followed upon the movements of this League, and much excitement, but no important results were effected.

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UNITED STATES. The Administration of President Hayes was closed without special incident. A Cabinet change took place near the beginning of the year, in consequence of the resignation of Secretary Thompson, of the Navy Department, to accept the position of American representative of the Panama Canal Company. His successor was Nathan Goff, Jr., of Virginia. Justice Swayne, of the Supreme Court, having retired from the bench, Mr. Stanley Matthews, of Ohio, was appointed as his successor, but failed of confirmation before the close of the regular session of Congress, in consequence of opposition in the Senate. The calling of a special session of the Senate, to begin on the 4th of March, and the veto of the funding bill, on the last day of the Forty-sixth Congress, were the only other incidents worthy of note.

The inauguration of General Garfield, on the 4th of March, was attended with an unusual military and civic display, and took place in the Senate-chamber, in the presence of the two Houses of Congress, the Justices of the Supreme Court, diplomatic representatives of other nations, and a large concourse of visitors. Before the oath of office was administered, the President-elect was introduced by Senator Pendleton, and delivered his inaugural address. At his right, on the platform, sat Chief-Justice Waite; on his left, ex-President Hayes; and, behind him, Mrs. Hayes, the wife and venerable mother of the new President, and Vice-President-elect Arthur. The address was as follows:

FELLOW-CITIZENS: We stand to-day upon an eminence which overlooks a hundred years of national life, a century crowded with perils, but crowned with triumphs of liberty and law. Before continuing our onward march, let us pause on this height for a moment to strengthen our faith and renew our hope by a glance at the pathway along which our people have traveled. It is now three days more than a hundred years since the adoption of the first written Constitution of the United States, and the Articles of Confederation, and perpetual Union. The new republic was then beset with danger on every hand. It had not conquered a place in the family of nations. The decisive battle of the war for independence, whose centennial anniversary will soon be gratefully celebrated at Yorktown, had not yet been fought. The colonists were struggling not only against the armies of a great nation, but against the settled opinions of mankind, for the world did not then believe that the supreme authority of the government could be safely intrusted to the guardianship of the people themselves. We can not overestimate the fervent love of liberty, intelligent courage, and saving common sense with which our fathers made the great experiment of self-government. When they found, after a short trial, that the confederation of States was too weak to meet the necessity of a vigorous and expanding republic, they boldly set it aside, and in its stead established a national Union, founded directly upon the will of the people, endowed with full powers of self-preservation and with ample authority for the accom-

plishment of its great objects. Under this Constitution the boundaries of freedom have been enlarged, the foundations of order and peace have been strengthened, and the growth of our people in all the better elements of national life has indicated the wisdom of its founders, and given new hope to their descendants. Under this Constitution her people long ago made themselves safe against danger from without, and secured for their mariners and flag equality of rights on all the seas. Under the Constitution, twenty-five States have been added to the Union, with constitutions and laws framed and enforced by their own citizens to secure the manifold blessings of local self-government. The jurisdiction of this Constitution now covers an area fifty times greater than that of the original thirteen States, and population twenty times greater than that of 1780. The supreme trial of the Constitution came at last under the tremendous pressure of civil war. We ourselves are witnesses that the Union emerged from the blood and fire of that conflict purified and made stronger for all beneficent purposes of good government; and now, at the close of this first century of growth, with inspirations of its history in their hearts, our people have lately viewed the condition of the nation, passed judgment upon the conduct and opinions of political parties, and have registered their will concerning the future administration of the Government. To interpret and to execute that will in accordance with the Constitution, is the paramount duty of the Executive. Even from this brief review, it is manifest that the nation is resolutely facing the front, resolved to employ the best energies in developing the great possibilities of the future, sacredly preserving whatever has been gained to liberty and a good Government during the century. Our people are determined to leave behind them all these bitter controversies concerning things which have been irrevocably settled, and further discussion of which can only stir up strife and delay their onward march. The supremacy of the nation and its laws should be no longer subject of debate. That discussion, which for a half century threatened the existence of the Union, was closed at last in the high court of war, by a decree from which there is no appeal, that the Constitution and the laws made in pursuance thereof are, and shall continue to be, the supreme law of the land, binding alike upon the States and the people. This decree does not disturb the autonomy of the States or interfere with any of their necessary rights of local government, but it does fix and establish the permanent supremacy of the Union. The will of the nation, speaking with the vehemence of battle and through an amended Constitution, has fulfilled the great promise of 1776 by proclaiming liberty throughout the land to all the inhabitants thereof. The elevation of the negro race from slavery to the full rights of citizenship is the most important political change we have known since the adoption of the Constitution of 1787. No thoughtful man can fail to appreciate its beneficial effects upon our institutions and the people. It has freed us from the perpetual danger of war and dissolution; it has added immensely to the moral and industrial forces of our people; it has liberated master as well as slave from the relation which wronged and enfeebled both. It has surrendered to their own guardianship the manhood of more than five millions of people, and has opened to each one of them a career of freedom and usefulness. It has given a new inspiration to the power of self-help in both races by making labor more honorable to the one and more necessary to the other. The influence of this force will grow greater, and bear richer fruit with coming years. No doubt the great change has caused serious disturbance to

our Southern communities. This is to be deplored, though it was perhaps unavoidable; but those who resisted the change should remember that under our institutions there was no middle ground for the negro race between slavery and equal citizenship. There can be no permanent disfranchised peasantry in the United States. Freedom can never yield its fullness of blessings so long as the law or its administration places the smallest obstacle in the pathway of any virtuous citizen. The emancipated race has made remarkable progress with unquestionable devotion to the Union, with patience and gentleness not born of fear. They have followed the light as God gave them to see the light. They are rapidly laying the material foundation of self-support; widening the circle of intelligence, and beginning to enjoy the blessings that gathered around the homes of industrious people. They deserve the generous encouragement of all good men. So far as my authority can lawfully extend, they shall enjoy full and equal protection of Constitution and laws. The full and free enjoyment of equal suffrage is still a question, and a frank statement of the issue may aid its solution. It is alleged that, in many places, honest local government is impossible if the mass of uneducated negroes are allowed to vote. These are grave allegations. So far as the latter is true, it is the only palliation that can be offered for opposing the freedom of the ballot. Bad local government is certainly a great evil, which ought to be prevented, but to violate the freedom and sanctity of suffrage is more than an evil; it is a crime, which, if persisted in, will destroy the Government itself. If in other lands it be high treason to compass the death of the King, it should be counted no less a crime here to strangle our sovereign power and stifle its voice. It has been said that unsettled questions have no pity for the repose of nations; it should be said, with the utmost emphasis, that this question of suffrage will never give repose or safety to the States or to the nation until each, within its own jurisdiction, makes and keeps the ballot free and pure by the strong sanctions of the law. But the danger which arises from ignorance in the voter can not be denied. It covers a field far wider than that of negro suffrage, and the present condition of that race. It is a danger that lurks and hides in the sources and foundations of power in every State. We have no standard by which to measure the disaster that may be brought upon us by ignorance and vice in the citizens, when joined to corruption and fraud in suffrage. The voters of the Union, who make and unmake constitutions, and upon whose will hang the destinies of our governments, can transmit their supreme authority to no successors save the coming generation of voters who are sole heirs of sovereign powers. If that generation comes to its inheritance, blinded by ignorance and corrupted by vice, the fall of the republic will be certain and remediless. The census has already sounded the alarm in the appalling figures which mark how dangerously high the tide of illiteracy has risen among our voters and their children. To the South this question is of supreme importance; but the responsibility for the existence of slavery does not rest upon the South alone. The nation itself is responsible for the extension of suffrage, and is under special obligation to aid in removing the illiteracy which it has added to the voting population. To the North and South alike there is but one remedy. All constitutional powers of the nation and States, and all the volunteer forces of the people should be summoned to meet this danger by the saving influence of universal education. It is the high privilege and sacred duty of those now living to educate their successors, and provide by intelligence and virtue for the inheritance which awaits them. In this beneficent work sections and races should be forgotten, and partisanship should be unknown. Let our hope find a new meaning in the divine oracle which declares that "a little child shall lead them," for our little children will soon control the destinies of the republic.

My countrymen, we do not differ in our judgment concerning the controversies of the first generations, and fifty years hence our children will not be divided in their opinions concerning our controversies. They will surely bless their fathers and their fathers' God that the Union was preserved, that slavery was overthrown, and that both races were made equal before the law. We may retard, but we can not prevent. Is it not possible for us now to make a truce with time by anticipating and accepting its inevitable verdict? Enterprises of the highest importance to our moral and material well-being invite us, and offer ample scope for the employment of our best powers. Let all our people, leaving behind them the battle-field of dead issues, move forward, and, in the strength of liberty and restored Union, win the grander victories of peace. The prosperity which now prevails is without a parallel in our history. Fruitful seasons have done much to secure it, but they have not done all. The preservation of public credit, and the resumption of specie payments, so successfully attained by the Administration of my predecessor, have enabled our people to secure the blessings which the seasons brought. By experience of commercial nations, in all ages, it has been found that gold and silver afford the only safe foundation for the monetary system. Confusion has recently been created by the variations in the relative value of the two metals, but I confidently believe that an arrangement can be made between the leading commercial nations which will secure the general use of both metals. Congress should provide that compulsory coinage of silver, now required by law, may not disturb our monetary system by driving either metal out of circulation. If possible, such adjustment should be made that the purchasing power of every coined dollar will be exactly equal as a debt-paying power in all the countries of the world. The chief duty of the national Government in connection with the currency of the country is to coin money and declare its value. Grave doubts have been entertained whether Congress is authorized by the Constitution to make any form of paper money a legal tender. The present issue of United States paper has been sustained by the necessities of war, but paper should depend for its value and currency upon its convenience, and in its prompt redemption in coin at the will of the holder, and not upon its compulsory circulation. These notes are not money, but a promise to pay money. If the holders demand it, the promise should be kept. The refunding of the national debt, at a lower rate of interest, should be accomplished without compelling the withdrawal of national-bank notes, and thus disturb the business of the country. I venture to refer to the position I have occupied on financial questions during a long service in Congress, and to say that time and experience have strengthened the opinions I have often expressed on these subjects. The finances of the Government shall suffer no detriment which it may be possible for my Administration to prevent.

The interests of agriculture deserve more attention from the Government than they have yet received. The farms of the United States are the homes and give employment to more than one half our people, and furnish much the largest part of all our exports. As the Government lights our coast for the protection of mariners and the benefit of commerce, so it should give to the tillers of the soil the best light and practical science.

Our manufactures are rapidly making us industrially independent, and are opening to capital and labor new and profitable fields of employment. Their steady and healthy growth should be maintained. Our facilities for transportation should be promoted by continued improvement of our harbors and great interior water-ways, and by increase of our tonnage on the oceans. The development of the world's commerce has led to urgent demand for shortening the great sea-voyage around Cape Horn by the construction of ship-canal or railways across the isthmus which unites the

two continents. Various plans to this end have been suggested and will need consideration, but none of them have been sufficiently matured to warrant United States aid. The subject, however, is one which immediately engages the attention of the Government, with a view to a thorough protection to American interests. We will urge no narrow policy nor seek peculiar or exclusive privileges in any commercial route, but, in the language of my predecessor, I believe it to be the right and duty of the United States to assert and maintain such supervision and authority over any inter-oceanic canal across the isthmus that connects North and South America as will protect our national interest. The Constitution guarantees absolute religious freedom. Congress is prohibited from making any law respecting an establishment of religion or prohibiting the free exercise thereof. The territories of the United States are subject to direct legislative authority of Congress, and hence the General Government is responsible for any violation of the Constitution in any of them. It is therefore a reproval to the Government that in the most populous of the Territories the constitutional guarantee is not enjoyed by the people, and the authority of Congress is set at naught. The Mormon Church is not only offensive in the moral sense of mankind, by sanctioning polygamy, but prevents the administration of justice through the ordinary instruments of law. In my judgment, it is the duty of Congress, while respecting to the uttermost conscientious convictions and religious scruples of every citizen, to prohibit within its jurisdiction all criminal practices, especially of that class which destroy the family relations and endanger social order. Nor can any ecclesiastical organization be safely permitted to usurp in the smallest degree the functions and powers of the national Government. Civil service can never be placed on a satisfactory basis until it is regulated by law for the good of the service itself, for the protection of those who are intrusted with the appointing power against waste of time and obstruction to public business caused by inordinate pressure for place, and for protection of incumbents against intrigues and wrong. I shall, at a proper time, ask Congress to fix the tenure of minor offices of the several executive departments, and prescribe the grounds upon which removals shall be made during the terms for which incumbents have been appointed. Finally, acting always within the authority and limitations of the Constitution, invading neither the rights of the States nor the reserved rights of the people, it will be the purpose of my Administration to maintain the authority of the nation, and in all places within its jurisdiction to enforce obedience to all laws of the Union in the interest of the people; to demand rigid economy in all expenditures of the Government, and require honest and faithful service of all executive officers, remembering that offices were created, not for the benefit of the incumbents or their supporters, but for the service of the Government. And now, fellow-citizens, I am about to assume the great trust which you have committed to my hands. I appeal to you for that earnest and thoughtful support which makes this Government, in fact, as it is in law, a government of the people.

I shall greatly rely upon the wisdom and patriotism of Congress, of those who may share with me the responsibilities and duties of the Administration, and, above all, upon our efforts to promote the welfare of this great people and their government. I reverently invoke the support and blessings of Almighty God.

At the close of the address the oath was administered by Chief-Justice Waite, then the new President turned and saluted his mother and wife with a kiss, and received the congratulations of those about him, and the cheers and applause of the crowd.

For some weeks previous to his inauguration General Garfield had been in consultation with

leading men of his party, and showed great solicitude for the united support of that organization for his Administration. The post of Secretary of State had been offered to Senator James G. Blaine, of Maine, soon after the result of the election was definitely ratified by the presidential electors of the States. The following letter, in response to the offer, was not made public until some time after the death of President Garfield:

WASHINGTON, December 20, 1880.

MY DEAR GARFIELD: Your generous invitation to enter your Cabinet as Secretary of State has been under consideration for more than three weeks, though it had really never occurred to my mind until at our late conference you presented it with such cogent arguments in its favor, and with such warmth of personal friendship in aid of your kind offer. I know that an early answer is desired, and I have waited only long enough to consider the subject in all its bearings, and to make up my mind definitely and conclusively. I now say to you, in the same cordial spirit in which you have invited me, that I accept the position. It is no affectation for me to add that I make this decision, not for the honor of the promotion it gives me in the public service, but because I think I can be useful to the country and to the party, useful to you as the responsible leader of the party and great head of the Government. I am influenced somewhat, perhaps, by the shower of letters I have received urging me to accept, written me in consequence of the unauthorized newspaper report that you had been pleased to offer me the place. While I have received these letters from all sections of the Union, I have been especially pleased, and even surprised, at the cordial and widely extended feelings in my favor throughout New England, where I had expected to encounter a local jealousy and perhaps rival aspirations. In our new relations, I shall give all that I am, and all that I can hope to be, freely and joyfully to your service. You need no pledge of my loyalty in heart and in act. I should be false to myself did I not prove true both to the great trust you confide to me and your own personal and political fortunes in the present and future. Your Administration must be made eminently successful and strong in the confidence and pride of the people, not at all directing its energies for re-election, and compelling that result by the logic of events and by imperious necessities of the situation to the most desirable consummation. I feel that next to yourself I can possibly contribute as much influence as any other. I say this not from egotism nor vainglory, but merely as a deduction from the plain analysis of political forces which have been at work in the country for five years past, and which have been significantly shown in two great national conventions. I accept it as one of the happiest circumstances connected with this affair that in allying my political fortunes with yours, or rather, for a time merging mine in yours, my heart goes with my head, and that I carry to you not only political support, but personal and devoted friendship. I can but regard it as somewhat remarkable that two men of the same age, entering Congress at the same time, influenced by the same aims and cherishing the same ambitions, should never for a single moment, in eighteen years of close intimacy, have had a misunderstanding or coolness, and that our friendship has steadily grown with our growth and strengthened with our strength. It is this fact which has led me to the conclusion embodied in this letter; for however much, my dear Garfield, I might admire you as a statesman, I would not enter your Cabinet if I did not believe in you as a man and love you as a friend. Always faithfully, yours,

JAMES G. BLAINE.

The full list of Cabinet appointments was submitted to the Senate on the 5th of March,

and promptly confirmed. It was as follows: James G. Blaine, of Maine, to be Secretary of State; William Windom, of Minnesota, to be Secretary of the Treasury; Wayne MacVeagh, of Pennsylvania, to be Attorney-General; Thomas L. James, of New York, to be Postmaster-General; Samuel J. Kirkwood, of Iowa, to be Secretary of the Interior; Robert T. Lincoln, of Illinois, to be Secretary of War; William H. Hunt, of Louisiana, to be Secretary of the Navy.

One of the first diplomatic appointments was that of Levi P. Morton, of New York, for Minister to France, which was confirmed on the 21st of March. The appointment of Mr. Matthews for the vacant place on the Supreme Bench was renewed on the 14th of March, and after considerable delay and opposition was confirmed by the Senate on the 12th of May. One object of the various consultations that preceded the inauguration was to reach a satisfactory agreement regarding the more important appointments to be made, but a contest was encountered with Senator Conkling, of New York, over the appointments within that State. The selection of Postmaster-General and of the Minister to France was supposed to have his approval, but that of Collector of the Port of New York met his earnest opposition, and led to his resignation of his seat in the Senate. (For details, see articles on GARFIELD, *Special Session of the Senate* under CONGRESS, and NEW YORK, in the present volume.)

The inauguration of the President on the 4th of March was observed with unusual satisfaction and confidence. The fact of his election was undisputed. His public career had inspired no distrust nor apprehension. His inaugural address confirmed the hopes and expectations that had been excited in his favor by his supporters. He said:

Sacredly preserving whatever has been gained to liberty and good government during the century, our people are determined to leave behind them all those bitter controversies concerning things which have been irrevocably settled, and the further discussion of which can only stir up strife and delay the onward march. . . . We have no standard by which to measure the disaster that may be brought upon us by ignorance and vice in the citizens when joined to corruption and fraud in the suffrage. . . . The source of our supreme danger, the point where the life of the nation is vulnerable, is at the ballot-box where her will is declared. . . . The danger which arises from ignorance in the voter can not be denied.

In these sentences there is a clear appreciation of the truth which he elsewhere asserts, that "the fountains of political power must be made pure by intelligence, and kept pure by vigilance, as a condition for preserving the public safety." Immediately after the inauguration, the Senate was convened, as above stated. During this session, the confirmation of a number of officers nominated by the President was opposed, for the reason that they were not approved by Senators representing the States where the officers resided and were to perform their duties. As a constitutional

question, there can not be a doubt of the conclusion. The President is charged to make a selection of all officers, independently of the Senate, or any member of the Senate. The nomination by the President imposes on him responsibility; the concurrence of the Senate in the appointment was designed as an additional check and safeguard. A nomination by the President with the necessary concurrence or sanction of one or more Senators of the State where the appointee resides, diminishes the responsibility and security. The consequences of this contest were an exasperation of the public mind and an infusion of bitterness among the classes actively engaged in the contentions of party warfare, and who seek compensation in the spoils of party victory. In the division of those spoils, intrigue, cabal, favoritism, sordid pursuit of official rank, habitually appear. The course of the President in asserting the claims of his high office was approved. But it soon appeared that the controversy was to him a fatal one. On the 2d of July, with the purpose of joining a party to attend the ceremonies at the college where he had been educated, the President came to the railroad depot, within the city of Washington. For weeks previously he had been the object of a sly, stealthy, murderous pursuit by an assassin, whose brain had been stimulated by the passion and excitements of election contests and of an unregulated and disordered life. Without hearing the tread of the felon, or having any boding sense of his own peril, the President received a mortal wound which terminated his magistracy, and, not long after, his life. Crimes, and crimes of atrocity, productive of lasting mischief to empires, states, and to individuals, must be expected sometimes to occur. These result from the perversions of humanity.

For the months of March, April, May, June, the capital was in a state of siege. There was a blockade of all the streets. Hunger-bitten adventurers were everywhere, carrying certificates of their worth. The best testimonial they could have furnished to their own worthlessness was the fact that they were so urgent to file them, and, in their own jargon, "to interview" the President about them. The President had to consider the claims of the contributors to the election fund, to share his counsels in the Cabinet, or to represent the country abroad. He had to determine whether one politician or another should control the patronage of this or that State, and which faction he should maintain. Those who had had any connection with him in the camp, or the field, or the legislative hall, or in the private circle, were there to make a profit from the fortunate acquaintance.

In the Capitol grounds, at the window of the church in which he worshiped, on the street as he sustained the feeble frame of his wife, and at the train prepared to bear him away to recreation and to some oblivion of the labo-

rious life to which he had been exalted, the assassin was his follower, seeking his opportunity for murder.

The President's life passed away on the 19th day of September, amid the lamentations of the Christian world. Is there reason to believe that his counsels can prevail? May it be hoped that the fountains of political power can be made pure or kept pure by intelligence and vigilance; or that the coming generations will enter upon their inheritance with souls not darkened by ignorance nor contaminated by vice; or that the ballot-box will never be corrupted to make an evil report?

Is there no method by which to divide the responsibility for the selection of competent officers and for maintaining them in their positions against the covetous practices of office-hunters? Is there no mode to prevent at least the corruption of the ballot-box by assessments upon all the officers of government in any contested election, State or Federal? Surely this offense against public order and the public morals is felonious, meriting a confinement in the penitentiary. Is there no mode by which the representatives of the States and of the people can be compelled to perform their legislative duties independently, and to leave the President to fulfill his oath to support the Constitution and to execute the laws?

Must this generation die without any return to the traditions of the fathers, without any knowledge of a condition of public affairs where party management for the mere advantage of partisans shall not predominate; where influenced majorities shall not be attempted; where contracts, pension arrearages, appropriations for spurious and unworthy objects will never be considered?

Must there be no hope ever to see a government which will confidently rest upon the basis of the wisdom, justice, moderation, and publicity of its measures, the intelligence employed to make itself pure, and the vigilance exercised over its conduct that it shall remain pure and incorrupt?

Questions relating to the succession in the presidential office came under discussion during this interval of the President's feebleness. (See *INABILITY OR DISABILITY* in the present volume.)

On the night of the President's death, or in the early hours of the morning of September 20th, the oath of office was administered to Vice-President Chester A. Arthur, at his own house in the city of New York, by Judge John R. Brady, of the State Supreme Court, who was summoned for the purpose. Subsequently, on the 22d of September, the oath was administered again in a more formal manner, in the Senate-chamber at Washington, by Chief-Justice Waite, in the presence of a distinguished company. On that occasion the following brief inaugural address was delivered:

For the fourth time in the history of the republic its Chief Magistrate has been removed by death. All

hearts are filled with grief and horror at the hideous crime which has darkened our land; and the memory of the murdered President, his protracted sufferings, his unyielding fortitude, the example and achievements of his life, and the pathos of his death will forever illumine the pages of our history.

For the fourth time the officer elected by the people and ordained by the Constitution to fill a vacancy so created is called to assume the executive chair. The wisdom of our fathers, foreseeing even the most dire possibilities, made sure that the government should never be imperiled because of the uncertainty of human life. Men may die, but the fabrics of our free institutions remain unshaken. No higher or more assuring proof could exist of the strength and permanence of popular government than the fact that, though the chosen of the people be stricken down, his constitutional successor is peacefully installed without shock or strain, except the sorrow which mourns the bereavement. All the noble aspirations of my lamented predecessor which found expression in his life, the measures devised and suggested during his brief administration to correct abuses and enforce economy, to advance prosperity and promote the general welfare, to insure domestic security and maintain friendly and honorable relations with the nations of the earth, will be garnered in the hearts of the people, and it will be my earnest endeavor to profit and to see that the nation shall profit by his example and experience.

Prosperity blesses our country, our fiscal policy is fixed by law, is well grounded and generally approved. No threatening issue mars our foreign intercourse, and the wisdom, integrity, and thrift of our people may be trusted to continue undisturbed the present assured career of peace, tranquillity, and welfare. The gloom and anxiety which have enshrouded the country must make repose especially welcome now. No demand for speedy legislation has been heard; no adequate occasion is apparent for an unusual session of Congress. The Constitution defines the functions and powers of the Executive as clearly as those of either of the other two departments of the Government, and he must answer for the just exercise of the discretion it permits and the performance of the duties it imposes. Summoned to these high duties and responsibilities, and profoundly conscious of their magnitude and gravity, I assume the trust imposed by the Constitution, relying for aid on Divine guidance and the virtue, patriotism, and intelligence of the American people.

(For other particulars, see articles *GARFIELD*, *JAMES A.*, and *ARTHUR*, *CHESTER A.*)

The first official act of the new President was the issuing of the following proclamation:

By the President of the United States of America—

A PROCLAMATION.

Whereas, In his inscrutable wisdom it has pleased God to remove from us the illustrious head of the nation, James A. Garfield, late President of the United States; and whereas it is fitting that the deep grief which fills all hearts should manifest itself with one accord toward the throne of infinite grace, and that we should bow before the Almighty and seek from him that consolation in our affliction and that sanctification of our loss which he is able and willing to vouchsafe:

Now, therefore, in obedience to sacred duty and in accordance with the desire of the people, I, *CHESTER A. ARTHUR*, President of the United States of America, do hereby appoint Monday next, the 26th day of September, on which day the remains of our honored and beloved dead will be consigned to their last resting-place on earth, to be observed throughout the United States as a day of humiliation and mourning; and I earnestly recommend all the people to assemble on that day in their respective places of divine worship, there to render alike their tribute of sorrowful sub-

mission to the will of Almighty God and of reverence and love for the memory and character of our late Chief Magistrate.

In witness whereof I have hereunto set my hand and caused the seal of the United States to be affixed. Done at the city of Washington, the 22d day of September, in the year of our Lord 1881, and of the independence of the United States the 106th.

CHESTER A. ARTHUR.

By the President:

JAMES G. BLAINE, Secretary of State.

Shortly after, a special session of the Senate was appointed by proclamation to be held on the 10th of October. (For proceedings, see CONGRESS.) No immediate changes in the Cabinet were made, though Attorney-General MacVeagh expressed a desire to withdraw at once. Secretary Windom, of the Treasury Department, insisted on resigning in October, in order to return to the Senate. Mr. Edwin D. Morgan, of New York, was nominated as his successor, and confirmed by the Senate, but declined the position on account of the state of his health. Charles J. Folger, Chief Judge of the New York Court of Appeals, was subsequently appointed and confirmed, and took charge of the department on the 15th of November. Mr. MacVeagh insisting on his resignation, Benjamin Harris Brewster, of Philadelphia, was appointed Attorney-General on the 16th of December. Secretary Blaine retired from the State Department on the 15th of December, and was succeeded by Frederick T. Frelinghuysen, of New Jersey. Postmaster-General James resigned near the beginning of 1882, and Timothy O. Howe, of Wisconsin, was appointed to the place. On the 15th of December Chief-Justice Horace Gray, of the Supreme Court of Massachusetts, was appointed Associate Justice of the Supreme Court to fill the vacancy caused by the death of Justice Nathan Clifford.

The funding act, passed by the Forty-sixth Congress, having been vetoed by President Hayes, the question of calling an extra session of Congress to deal with the subject was entertained, but decided adversely, Secretary Windom having devised the plan of extending the five and six per cent bonds at $3\frac{1}{2}$ per cent at the option of the holders. (See FINANCE.)

Before the new Administration came in there had been allegations of fraud and irregularity in the conduct of the mail service on the Star routes. It was alleged that favors had been shown to a combination or "ring" of contractors, who obtained control of a large number of routes in the West and Southwest where railroad connections did not exist. After the service had been let on contracts, the compensation was largely increased by expediting the time required for trips over the various routes, and increasing the number of trips beyond the necessities of the service. It was charged that a conspiracy to defraud the Government existed, in which some of the leading contractors, the Second Assistant Postmaster-General, Thomas J. Brady, and certain other

persons, including Senator S. W. Dorsey, of Arkansas, were concerned. An investigation was carried on by the Post-Office Department, a large amount of evidence was collected, and the matter was turned over to the Attorney-General for the prosecution of the alleged offenders. General Brady resigned April 20, 1881; J. L. French, one of his clerks, was removed April 26th; and Mr. McGrew, the Sixth Auditor of the Treasury, who had charge of the Post-Office accounts, resigned June 2d. The Attorney-General had associated with him for the prosecution of the Star-route cases, W. A. Cook, of Washington, and B. H. Brewster, of Philadelphia, and, after the accession of President Arthur, Mr. George Bliss, of New York, was added and took a leading part in the conduct of the cases. Proceeding by information was begun in one of the most important cases, because delay in obtaining indictments threatened to defeat the prosecution through the operation of the statute of limitations. This case was dismissed by Judge Cox, on the 10th of November, on the ground that proceedings by information could not be sustained. Subsequently the subject was brought before the Grand Jury of the District of Columbia, and indictments found early in 1882 against Brady, Dorsey, and several others, on a charge of conspiracy to defraud the Government.

Guiteau, the assassin of President Garfield, was indicted for murder on the 7th of October, and brought to trial on the 14th of November. (See GUILTEAU'S TRIAL; also, INSANITY, AS A DEFENSE FOR CRIME.) On the 12th of September, Sergeant Mason, one of the soldiers detailed to guard Guiteau, fired into his cell in the Washington jail, with the evident intent to kill the prisoner. He was subsequently tried by court-martial and early in 1882 was sentenced to dismissal from the army, loss of pay due, and to imprisonment for eight years in the penitentiary at Albany, New York.

The foreign relations of the country during the year were undisturbed. Diplomatic discussion and negotiations were confined chiefly to the Inter-oceanic Canal question, and the conflict between Chili and Peru. (See PANAMA CANAL; and PERU, CHILI, AND THE UNITED STATES; also, NATURALIZATION PAPERS.)

The Government took part in an International Monetary Conference having for its object the rehabilitation of silver as money. (See BI-METALLISM, and FINANCES OF THE UNITED STATES.)

The centenary of the battle of Yorktown took place in October. (See VIRGINIA.)

UNITED STATES, THE CENSUS OF. The census of the United States is ordained by a provision of the Federal Constitution. The first article of that instrument prescribes a general enumeration of the people within three years after the first meeting of Congress, and thereafter within every subsequent term of ten years. The first census was taken in 1790, and recorded the names of heads of families,

enumerated the free white males of sixteen years of age and upward, the same under sixteen, and gave the number of females and the number of slaves. The second and third censuses distinguished the sexes and colors of free persons, classifying the free males under ten years of years, those from ten to sixteen, sixteen to twenty-six, twenty-six to forty-five, forty-five and upward; the slaves were simply taken by number. In 1810 the marshals were directed to make return of the several manufacturing establishments and manufacturers within their several districts. A like division was made of population by the fourth census, which distinguished the number of persons engaged in agriculture, commerce, and manufactures respectively. The enumeration of the fifth census distinguished the sexes of all free white persons, and ages of white males and females by periods of five years up to twenty years, thence by periods of ten years to the

age of a hundred and upward, specifying the deaf and dumb and blind under the age of fourteen years. Thus the field of inquiry has been enlarged at every period, until it embraces almost every subject of prime importance. The total population of the United States, as finally returned by the census of 1880, is 50,155,783. This aggregate was composed as follows: Male, 25,518,820; female, 24,636,963; native, 43,475,840; foreign, 6,679,943; white, 43,402,970; colored, 6,580,793; Chinese, 105,465; Japanese, 148; Indians, 66,407. In 1870 the aggregate population was 38,558,371. There were then 19,493,565 males, 19,064,806 females, 32,991,142 native-born, 5,567,229 foreign-born, 33,589,377 whites, 4,880,009 colored, 63,199 Chinese, 55 Japanese, and 25,731 civilized Indians—that is, Indians out of tribal relations. The following table gives the population for 1880 by States and Territories, in the aggregate, and by nativity and race:

STATES AND TERRITORIES.	Total.	Native.	Foreign.	White.	Colored.	Chinese.	Japanese.	Indians.
Alabama.....	1,262,505	1,252,771	9,734	662,185	600,103	4	.....	218
Arkansas.....	802,525	792,175	10,350	591,531	210,666	133	.....	195
California.....	864,694	571,820	292,874	767,181	6,018	75,132	86	16,277
Colorado.....	194,327	154,537	39,790	191,126	2,435	612	.....	154
Connecticut.....	622,700	492,708	129,992	610,769	11,547	123	6	255
Delaware.....	146,608	137,140	9,468	129,160	26,442	1	.....	5
Florida.....	269,493	259,584	9,909	142,605	126,690	18	.....	180
Georgia.....	1,542,189	1,531,616	10,574	816,906	725,133	17	.....	124
Illinois.....	3,077,871	2,494,295	583,576	3,031,151	46,363	209	8	140
Indiana.....	1,978,301	1,834,123	144,178	1,938,793	39,228	29	.....	246
Iowa.....	1,624,615	1,362,965	261,650	1,614,600	9,516	33	.....	466
Kansas.....	996,096	886,010	110,086	952,155	43,107	19	.....	815
Kentucky.....	1,643,690	1,589,173	59,517	1,377,179	271,451	10	.....	50
Louisiana.....	939,946	835,800	54,146	454,954	483,655	489	.....	848
Maine.....	648,936	590,053	58,883	646,852	1,451	8	.....	625
Maryland.....	934,943	852,137	82,806	724,693	210,230	5	.....	15
Massachusetts.....	1,738,085	1,339,534	443,491	1,763,732	18,697	229	8	869
Michigan.....	1,636,937	1,243,429	393,508	1,614,560	15,100	27	1	7,249
Minnesota.....	780,773	513,097	267,676	776,384	1,564	24	1	2,300
Mississippi.....	1,131,597	1,122,388	9,209	479,998	650,291	51	.....	1,857
Missouri.....	2,168,850	1,956,802	211,578	2,022,526	145,350	91	.....	113
Nebraska.....	452,403	354,983	97,414	449,764	2,355	18	.....	235
Nevada.....	62,266	36,613	25,653	53,556	488	5,416	3	2,303
New Hampshire.....	346,991	300,697	46,294	346,229	685	14	.....	68
New Jersey.....	1,131,116	909,416	221,700	1,092,017	38,533	170	2	74
New York.....	5,082,871	3,871,492	1,211,379	5,016,022	65,104	909	17	819
North Carolina.....	1,399,750	1,396,008	3,742	867,242	531,277	.....	1	1,230
Ohio.....	3,198,062	2,863,119	334,943	3,117,920	79,900	109	3	130
Oregon.....	174,763	144,265	30,508	163,075	487	9,510	2	1,694
Pennsylvania.....	4,232,591	3,695,062	537,529	4,197,016	85,535	148	8	184
Rhode Island.....	276,531	202,538	73,993	269,939	6,438	27	.....	77
South Carolina.....	995,377	937,891	7,686	391,105	604,332	9	.....	131
Tennessee.....	1,542,359	1,525,657	16,702	1,133,831	403,151	25	.....	852
Texas.....	1,591,749	1,477,133	114,616	1,197,237	398,834	136	.....	992
Vermont.....	332,286	291,327	40,959	331,213	1,057	.....	.....	11
Virginia.....	1,512,565	1,497,869	14,696	830,558	631,616	6	.....	85
West Virginia.....	618,457	600,192	18,265	592,537	25,886	5	.....	29
Wisconsin.....	1,315,497	910,072	405,425	1,309,618	2,702	16	.....	3,161
The States.....	49,371,340	42,571,556	6,499,784	42,714,479	6,513,872	93,782	141	44,566
Arizona.....	40,440	24,291	16,049	35,160	155	1,630	2	3,493
Dakota.....	135,177	83,332	51,795	133,147	401	233	.....	1,391
District of Columbia..	177,624	160,502	17,122	118,006	59,596	13	4	5
Idaho.....	32,610	22,636	9,974	29,013	53	3,379	.....	165
Montana.....	39,159	27,633	11,521	35,335	346	1,765	.....	1,663
New Mexico.....	119,565	111,514	8,051	103,721	1,015	57	.....	9,772
Utah.....	143,963	99,969	43,994	142,423	232	501	.....	807
Washington.....	75,116	50,313	15,803	67,199	325	3,136	1	4,405
Wyoming.....	20,780	14,939	5,850	19,437	293	914	.....	140
The Territories....	784,443	694,234	180,159	633,491	62,421	11,633	7	21,841
The United States..	50,155,783	43,475,840	6,679,943	43,402,970	6,580,793	105,465	148	66,407

The population of the one hundred largest cities of the United States, including all those

having 20,000 inhabitants, or upward, is as follows for 1880 and 1870:

CITIES.	States.	TOTAL POPULATION.		CITIES.	State.	TOTAL POPULATION.	
		1880.	1870.			1880.	1870.
Albany	New York	90,753	69,422	Mohile	Alabama	29,132	32,034
Allegheny	Pennsylvania ..	78,632	53,180	Nashville	Tennessee	43,350	25,865
Atlanta	Georgia	37,409	21,789	Newark	New Jersey	136,508	105,059
Auburn	New York	21,924	17,225	New Bedford	Massachusetts ..	26,845	21,320
Augusta	Georgia	21,891	15,339	New Haven	Connecticut	62,882	50,540
Baltimore	Maryland	332,313	267,354	New Orleans	Louisiana	216,090	191,418
Bay City	Michigan	20,693	7,064	Newport	Kentucky	20,433	15,087
Boston	Massachusetts ..	362,539	250,526	New York	New York	1,206,299	942,292
Bridgeport	Connecticut	27,643	18,969	Norfolk	Virginia	21,966	19,229
Brooklyn	New York	566,663	396,099	Oakland	California	84,555	10,500
Buffalo	New York	155,184	117,714	Omaha	Nebraska	30,518	16,038
Cambridge	Massachusetts ..	52,669	39,634	Oswego	New York	21,116	20,910
Camden	New Jersey	41,659	20,045	Paterson	New Jersey	51,031	33,579
Charleston	South Carolina ..	49,984	48,956	Peoria	Illinois	29,259	22,849
Chelsea	Massachusetts ..	21,732	18,547	Petersburg	Virginia	21,656	18,550
Chicago	Illinois	503,185	298,977	Philadelphia	Pennsylvania ..	847,170	674,022
Cincinnati	Ohio	255,139	216,239	Pittsburg	Pennsylvania ..	156,339	86,076
Cleveland	Ohio	160,146	92,829	Portland	Maine	33,810	31,413
Columbus	Ohio	51,647	31,274	Poughkeepsie ..	New York	20,207	20,080
Covington	Kentucky	29,720	24,505	Providence	Rhode Island ..	104,857	68,904
Davenport	Iowa	21,331	20,038	Quincy	Illinois	27,268	24,052
Dayton	Ohio	38,673	30,473	Reading	Pennsylvania ..	43,273	33,930
Denver	Colorado	35,629	4,759	Richmond	Virginia	63,600	51,038
Des Moines	Iowa	22,403	12,035	Rochester	New York	89,366	62,356
Detroit	Michigan	116,340	79,577	Sacramento	California	21,420	16,233
Duquene	Iowa	22,254	18,434	St. Joseph	Missouri	32,431	19,565
Elizabeth	New Jersey	28,229	20,832	St. Louis	Missouri	350,518	310,564
Elmira	New York	20,541	15,863	St. Paul	Minnesota	41,473	20,030
Erie	Pennsylvania ..	27,737	19,646	Salem	Massachusetts ..	27,563	24,117
Evansville	Indiana	29,230	21,830	Salt Lake City ..	Utah	20,768	12,554
Fall River	Massachusetts ..	48,961	26,766	San Antonio	Texas	20,550	12,256
Fort Wayne	Indiana	26,880	17,718	San Francisco ..	California	233,593	149,473
Galveston	Texas	22,243	13,813	Savannah	Georgia	30,709	28,235
Grand Rapids	Michigan	32,016	16,507	Scranton	Pennsylvania ..	45,850	35,092
Harrisburg	Pennsylvania ..	30,762	23,104	Somerville	Massachusetts ..	24,933	14,655
Hartford	Connecticut	42,015	37,180	Springfield	Illinois	19,743	17,364
Hoboken	New Jersey	30,999	20,297	Springfield	Massachusetts ..	33,340	26,703
Holyoke	Massachusetts ..	21,915	10,733	Springfield	Ohio	20,730	12,652
Indianapolis	Indiana	75,056	48,244	Syracuse	New York	51,792	43,051
Jersey City	New Jersey	120,722	82,546	Taunton	Massachusetts ..	21,213	18,629
Kansas City	Missouri	55,735	32,260	Terre Haute	Indiana	26,042	16,103
Lancaster	Pennsylvania ..	25,769	20,233	Toledo	Ohio	50,137	31,634
Lawrence	Massachusetts ..	39,151	28,921	Trenton	New Jersey	29,910	22,874
Louisville	Kentucky	123,758	100,753	Troy	New York	56,747	46,465
Lowell	Massachusetts ..	59,475	40,923	Utica	New York	33,914	28,804
Lynn	Massachusetts ..	33,274	28,233	Washington	Dist. of Colum ..	147,293	109,199
Manchester	New Hampshire ..	32,630	23,536	Wheeling	West Virginia ..	30,737	19,280
Memphis	Tennessee	33,592	40,226	Wilkesbarre	Pennsylvania ..	23,339	10,174
Milwaukee	Wisconsin	115,537	71,440	Wilmington	Delaware	42,473	30,841
Minneapolis	Minnesota	46,887	13,066	Worcester	Massachusetts ..	58,291	41,105

An important part of the geographical work of the census has been the revision of the areas of the United States and the several States and Territories prepared by Henry Gannett, the geographer and special agent of the tenth census. In transmitting his report to the Superintendent of the Census, Mr. Gannett said: "The necessity for revising the figures which have popularly passed as the areas of the States presented itself early in the progress of my geographical work in connection with the census. Of several States a number of estimates of area have been in use, differing from one another by thousands of square miles, and none of them, perhaps, traceable to any authentic source. Many of the results were palpably wrong, being so far from the truth that it is a source of surprise that they were not corrected before. The methods by which I have obtained the areas are fully set forth in the body of the bulletin. I may say, however, that while most of the areas can be considered as only approximations, yet they are as close approximations as the maps and the determinations of geographical positions, of boundary-lines, etc., will permit."

There is not a State or Territory whose area in the census returns of 1880 is not different from that previously given. The total area of the United States, as now revised, is about 800 square miles less than that heretofore fixed. It was given in the census of 1870 at 3,026,494 square miles, exclusive of the 577,390 square miles of Alaska, and it is now found to be 3,025,600. In fourteen States and five Territories the revised area is less than the old; in the rest it is greater. The difference is very considerable in most cases, and is great in some. The number of square miles in California is reduced from 188,981 to 158,360, in Texas from 274,356 to 265,780, in Tennessee from 45,600 to 42,050, in South Carolina from 34,000 to 30,570, in Pennsylvania from 46,000 to 45,215, in Maine from 35,000 to 33,040, and in New Jersey from 8,320 to 7,815. The area of Massachusetts has been increased from 7,800 to 8,315 square miles, New York from 47,000 to 49,170, Virginia from 38,348 to 42,450, Kentucky from 37,680 to 40,400, Missouri from 65,350 to 69,415, Louisiana from 41,346 to 43,720, Nevada from 104,125 to 110,700, and Wisconsin from 53,924 to 56,040. The census-table of















MAP OF THE
UNITED STATES,

SHOWING THE DENSITY OF
COLORED POPULATION,

Exclusive of towns of 8,000 inhabitants or over. Compiled from the
Returns of Population at the Tenth Census, 1880.

Key W

1880, which does not include Alaska, is as follows, the figures representing square miles:

STATES.	Gross areas.	Total water-sur-face.	Total land-surface.
Alabama.....	52,250	710	51,540
Arizona.....	118,020	100	112,920
Arkansas.....	53,850	805	53,045
California.....	158,360	2,380	155,980
Colorado.....	103,925	280	103,645
Connecticut.....	4,990	145	4,845
Dakota.....	149,100	1,430	147,700
Delaware.....	2,050	90	1,960
District of Columbia.....	70	10	60
Florida.....	53,680	4,440	54,240
Georgia.....	59,475	495	53,980
Idaho.....	84,800	510	84,290
Illinois.....	56,650	650	56,000
Indiana.....	36,350	440	35,910
Indian Territory.....	64,690	600	64,090
Iowa.....	56,025	550	55,475
Kansas.....	82,080	380	81,700
Kentucky.....	40,400	400	40,000
Louisiana.....	48,720	3,300	45,420
Maine.....	33,040	3,145	29,895
Maryland.....	12,210	2,350	9,860
Massachusetts.....	8,315	275	8,040
Michigan.....	53,915	1,485	57,480
Minnesota.....	53,365	4,160	79,205
Mississippi.....	46,310	470	46,840
Missouri.....	69,415	650	63,735
Montana.....	146,080	770	145,310
Nebraska.....	76,855	670	76,185
Nevada.....	110,700	960	109,740
New Hampshire.....	9,305	300	9,005
New Jersey.....	7,815	360	7,455
New Mexico.....	122,530	120	122,460
New York.....	49,170	1,550	47,620
North Carolina.....	52,250	3,670	43,580
Ohio.....	41,060	300	40,760
Oregon.....	96,030	1,470	94,560
Pennsylvania.....	45,215	230	44,985
Rhode Island.....	1,250	165	1,085
South Carolina.....	30,570	400	30,170
Tennessee.....	42,050	390	41,750
Texas.....	265,780	3,490	262,290
Utah.....	84,970	2,780	82,190
Vermont.....	9,565	430	9,135
Virginia.....	42,450	2,325	40,125
Washington Territory.....	60,180	2,300	66,880
West Virginia.....	24,780	135	24,645
Wisconsin.....	56,040	1,590	54,450
Wyoming.....	97,830	315	97,575
Unorganized territory.....	5,740	....	5,740
Delaware Bay.....	620	620	.....
Raritan Bay and lower New York Bay.....	100	100	.....
Total.....	3,025,600	55,600	2,970,000

The reader is referred to the maps showing the comparative density of the population in 1830 and in 1880; also to the maps showing the location and density of the foreign and of the colored population.

The census returns of cereals represent the crops for 1879. The acreage is now reported for the first time. The figures for the United States show that 1,997,717 acres were planted with barley, 848,389 with buckwheat, 62,368,869 with Indian corn, 16,144,593 with oats, 1,842,303 with rye, and 35,430,052 with wheat. The production in bushels was: barley, 44,113,495; buckwheat, 11,817,327; Indian corn, 1,754,861,535; oats, 407,858,999; rye, 19,831,595; and wheat, 459,479,505. The yield of 1869, as reported by the census of 1870, was: barley, 29,761,305 bushels; buckwheat, 9,821,721; Indian corn, 760,944,549; oats, 282,107,157; rye, 16,918,795; wheat, 287,745,626.

"The most striking suggestion of these figures," says Mr. J. R. Dodge, the special agent for the collection of statistics of agriculture, "is the unprecedented advance in production during the last decade, amounting to nearly one hundred per cent for all kinds taken together, while the increase of the ten years preceding was but twelve per cent. This wide difference is largely real, from obvious causes, though in part only apparent, by reason of the partial failure of the corn-crop of 1869 and the heavy yield of 1879. The cereal increase between 1850 and 1860, a period of great agricultural growth, was forty-three per cent, as reported by the census." The apparent increase in corn is one hundred and thirty-three per cent, the three great corn-growing States, Illinois, Iowa, and Missouri, producing in 1879 more than the entire country in 1869. The advance in Illinois from 129,921,395 to 327,796,895 bushels of corn is in part the result of extension of area, but largely due to the fact that the crop of 1869 was a partial failure by reason of drought. The cotton States show a gain of about forty per cent in corn since 1869. The production in Kansas has increased from 17,025,525 to 106,791,482 bushels, which is due chiefly to immigration and cheap and fertile lands; in Iowa, from 68,935,065 to 276,093,295; and in Missouri, from 66,034,075 to 203,464,620.

A comparatively steady and rapid increase of wheat-growing is shown by a comparison with former enumerations, the gain being seventy-three per cent in the last decade, and sixty-six and sixty, respectively, in those immediately preceding. While all the States and Territories, except Florida and Wyoming, report wheat, several on the Atlantic and Gulf coasts show diminished production, and seven tenths of the entire crop is produced in nine States, in the following order of precedence: Illinois, Indiana, Ohio, Michigan, Minnesota, Iowa, California, Missouri, Wisconsin. There has been for several years an increasing interest in wheat-culture in all of the Southern States, especially in the Piedmont regions of the Carolinas and Georgia, and in the northern central counties of Texas; and there has been a disposition to experiment in the more southern portions of the cotton belt, even in Louisiana and Florida, confined in the former State to northern parishes on the uplands between the Washita and Red Rivers. The low rate of yield in the Southern States is not altogether due to unsuitable soil or unfavorable climatic condition, but to the practice of using wheat-fields for winter pasture—a consideration often deemed more important than the harvesting of the ripened grain. The season of 1879 was also exceptionally unfavorable in this region. The average yield is but five or six bushels in several of these States.

The production of oats has been extended mainly in the West and South. Four tenths of the area of this crop, with nearly half of its

product, is found in four States—Illinois, Iowa, New York, and Pennsylvania.

California and New York still produce nearly half of the barley-crop. Wisconsin, Iowa, and Minnesota have made the heaviest increase, and now produce the larger part of the remaining half. It is making no appreciable advance in the South.

The increase of rye has been only seventeen

per cent, showing a decline in production in proportion to population. Pennsylvania, Illinois, and New York still produce about half the crop.

Two thirds of the buckwheat-crop is the product of New York and Pennsylvania.

The following table, taken from the census report for 1880, gives the cereal crops for 1879:

STATES.	Barley.	Buckwheat.	Indian corn.		Oats.	Rye.	Wheat.	
	Bushels.	Bushels.	Acres.	Bushels.	Bushels.	Bushels.	Acres.	Bushels.
Alabama.....	5,281	363	2,055,929	25,451,273	3,039,639	28,402	264,971	1,529,657
Arizona.....	239,051	...	1,818	34,746	564	.....	9,026	186,427
Arkansas.....	1,952	543	1,293,310	24,156,417	2,219,822	22,387	204,131	1,269,730
California.....	12,579,561	22,307	71,781	1,993,325	1,341,271	181,681	1,632,429	29,017,707
Colorado.....	107,116	110	22,991	455,968	640,900	19,465	64,693	1,425,014
Connecticut.....	12,236	187,593	55,796	1,880,421	1,009,706	370,733	2,198	88,742
Dakota.....	277,424	2,521	90,352	2,000,864	2,217,132	24,359	265,298	2,830,289
Delaware.....	523	5,557	202,120	3,394,264	378,508	5,953	87,539	1,175,272
Dist. of Columbia.	...	.....	1,032	29,750	7,440	8,704	284	6,402
Florida.....	210	.....	360,294	3,174,234	463,112	2,965	81	422
Georgia.....	18,662	402	2,588,733	23,202,018	5,543,743	101,716	475,684	3,159,771
Idaho.....	274,750	.....	569	16,408	462,236	4,341	22,066	540,589
Illinois.....	1,229,523	178,859	9,019,331	325,792,431	63,189,200	3,121,755	3,218,542	51,110,502
Indiana.....	382,335	89,707	3,673,420	115,432,300	15,599,518	303,105	2,619,095	47,284,853
Iowa.....	4,022,588	166,395	6,616,144	275,024,247	50,610,591	1,518,605	3,049,233	31,154,205
Kansas.....	300,273	24,421	3,417,817	105,729,325	8,180,335	413,181	1,861,402	17,324,141
Kentucky.....	486,326	9,942	3,021,176	72,852,263	4,530,738	668,050	1,160,103	11,356,113
Louisiana.....	.....	.....	742,723	9,906,139	229,840	1,013	1,501	5,034
Maine.....	242,185	332,701	30,997	963,633	2,265,575	26,398	43,329	665,714
Maryland.....	6,097	136,667	664,923	15,968,593	1,794,372	238,067	569,296	3,004,364
Massachusetts....	50,123	67,117	53,344	1,797,593	645,159	213,716	903	15,763
Michigan.....	1,204,316	413,062	919,792	32,461,452	13,190,793	294,913	1,822,749	35,532,543
Minnesota.....	2,972,965	41,756	433,737	14,331,741	23,382,153	215,245	3,044,670	34,601,030
Mississippi.....	343	.....	1,570,550	21,340,800	1,959,620	5,134	43,524	213,590
Missouri.....	123,031	57,640	5,588,265	202,435,723	20,670,958	535,426	2,074,394	24,966,627
Montana.....	39,970	437	197	5,649	900,915	430	17,665	469,638
Nebraska.....	1,744,636	17,562	1,630,660	65,450,135	6,555,375	424,343	1,469,565	13,847,007
Nevada.....	513,470	.....	437	12,391	186,360	.....	3,674	69,298
New Hampshire....	77,377	94,990	36,612	1,350,243	1,017,620	34,633	11,243	169,316
New Jersey.....	4,091	466,414	344,555	11,150,705	3,710,573	949,064	149,760	1,901,739
New Mexico.....	50,053	.....	41,449	633,736	156,527	240	51,230	706,641
New York.....	7,792,062	4,461,200	779,272	25,375,480	37,575,566	2,634,690	736,611	11,587,766
North Carolina...	2,421	44,663	2,305,419	23,019,829	3,333,068	285,160	646,329	3,397,393
Ohio.....	1,707,129	230,229	3,231,923	111,877,124	23,664,505	369,221	2,556,134	46,014,869
Oregon.....	920,977	6,215	5,646	126,362	4,385,650	13,305	445,077	7,480,010
Pennsylvania.....	433,100	3,593,326	1,373,270	45,321,531	33,841,439	3,633,621	1,445,384	19,462,405
Rhode Island.....	17,733	1,254	11,393	372,967	159,339	12,397	17	240
South Carolina....	16,257	.....	1,303,404	11,767,099	2,715,505	27,049	170,902	962,358
Tennessee.....	30,019	33,434	2,904,373	62,764,429	4,722,190	156,419	1,196,563	7,331,353
Texas.....	72,736	535	2,438,587	29,065,172	4,593,359	25,339	373,612	2,567,760
Utah.....	217,140	.....	12,007	163,342	413,032	9,605	72,342	1,169,199
Vermont.....	267,625	356,613	55,249	2,014,271	3,742,232	71,733	20,743	337,257
Virginia.....	14,223	136,004	1,767,567	29,106,661	5,333,131	324,431	900,307	7,522,504
Washington.....	566,537	2,498	2,117	39,133	1,571,706	7,124	31,564	1,921,322
West Virginia....	9,740	235,293	565,735	14,090,609	1,903,505	113,131	393,063	4,001,711
Wisconsin.....	5,043,118	299,107	1,015,393	34,239,579	32,905,320	2,298,513	1,943,160	24,384,639
Wyoming.....	.....	.....	.....	.....	22,512	73	241	4,674
United States.	44,113,495	11,317,327	62,363,369	1,754,361,535	407,353,999	19,331,595	35,430,052	459,479,505

The following table shows the number of acres of sugar-cane planted, and the number of hogsheads of sugar and gallons of molasses produced in 1879, as returned at the census of 1880:

STATES.	Acres.	Sugar (hogsheads).	Molasses (gallons).
Alabama.....	6,627	94	795,199
Florida.....	7,933	1,273	1,029,363
Georgia.....	15,053	601	1,565,734
Louisiana.....	131,592	171,706	11,696,243
Mississippi.....	4,555	18	536,625
South Carolina....	1,737	229	138,944
Texas.....	10,224	4,951	310,605
Total.....	227,776	178,372	16,573,273

The production of rice is given in the annexed table. It grows in eight States, but al-

most one half of the whole crop is the yield of the State of South Carolina. Georgia is the next in productiveness:

STATES.	Acres.	Pounds.	Average yield per acre (pounds).
Alabama.....	1,579	810,389	514
Florida.....	2,551	1,294,677	503
Georgia.....	34,973	25,369,637	725
Louisiana.....	42,000	23,188,311	552
Mississippi.....	3,501	1,713,351	491
North Carolina...	10,346	5,609,191	517
South Carolina....	73,333	52,077,515	664
Texas.....	335	62,152	186
Total.....	174,173	110,131,373	632

Following are the statistics of the tobacco-crop:

STATES.	Acres.	Pounds.
Alabama.....	2,197	452,426
Arizona.....	1	600
Arkansas.....	2,064	970,220
California.....	84	73,317
Connecticut.....	8,666	14,044,652
Dakota.....	5	1,897
Delaware.....	4	1,278
District of Columbia.....	2	1,400
Florida.....	90	21,132
Georgia.....	971	223,500
Idaho.....	2	400
Illinois.....	5,612	3,935,825
Indiana.....	11,955	8,872,342
Iowa.....	692	420,477
Kansas.....	333	191,669
Kentucky.....	226,120	171,120,784
Louisiana.....	253	55,954
Maine.....	1	250
Maryland.....	38,174	26,032,147
Massachusetts.....	3,358	5,369,436
Michigan.....	170	83,969
Minnesota.....	163	69,922
Mississippi.....	1,471	414,663
Missouri.....	15,521	12,015,657
Nebraska.....	101	57,979
Nevada.....	2	1,500
New Hampshire.....	88	170,843
New Jersey.....	152	172,315
New Mexico.....	7	890
New York.....	4,937	6,431,431
North Carolina.....	57,208	26,956,218
Ohio.....	34,676	34,735,235
Oregon.....	43	17,325
Pennsylvania.....	27,566	36,943,272
Rhode Island.....	2	735
South Carolina.....	169	45,673
Tennessee.....	41,532	29,365,052
Texas.....	685	221,233
Vermont.....	84	131,432
Virginia.....	140,791	79,988,863
Washington.....	8	6,930
West Virginia.....	4,071	2,296,146
Wisconsin.....	8,810	10,603,423
Total United States.....	638,841	472,661,159

This crop was a medium one. The total production in 1869 was 262,735,341 pounds, of which 105,305,869 pounds were grown in Kentucky, 37,086,364 in Virginia, 21,465,452 in Tennessee, 18,741,973 in Ohio, 15,785,339 in Maryland, 12,320,483 in Missouri, 11,150,087 in North Carolina, and 8,328,798 in Connecticut. Mr. J. B. Killebrew, special agent on the culture and curing of tobacco, reports that—

Ninety-four per cent of all the product grown for market in 1879, north of the parallel of 39° 44', was classed as seed-leaf tobacco; and eighty-four per cent of the whole product of that class was grown north of the same line. The amount of seed-leaf grown in the United States reached nearly twenty per cent of the entire product. The new variety known as White Burley, which has attained such great popularity within the past decade, for the manufacture of chewing-tobacco, amounted to thirteen per cent of the whole crop of 1879. The seed-leaf varieties, including Havana or Spanish, with the White Burley, together made nearly one third of the crop. The remainder was divided unequally between export tobacco and sun-, air-, and flue-cured fillers and wrappers for plug-work and smoking-tobacco. A very small proportion of that cured with open fires is now used for domestic consumption, its use being confined to sailors, lumbermen, fishermen, and those performing hard outdoor labor.

The following table shows the production of cotton, in bales averaging 475 pounds each:

STATES.	Acres.	Bales.	Bales per acre.
Alabama.....	2,330,086	699,654	0·30
Arkansas.....	1,042,976	603,256	0·58
Florida.....	245,595	54,997	0·22
Georgia.....	2,617,138	814,441	0·31
Indian Territory.....	35,000	17,000	0·49
Kentucky.....	2,667	1,367	0·51
Louisiana.....	864,787	503,569	0·59
Mississippi.....	2,093,330	953,808	0·46
Missouri.....	32,116	20,318	0·63
North Carolina.....	893,153	389,593	0·44
South Carolina.....	1,364,249	522,548	0·38
Tennessee.....	722,562	330,621	0·46
Texas.....	2,173,732	803,642	0·37
Virginia.....	45,040	19,595	0·44
Total United States.....	14,462,431	5,746,414	0·40

The total yield of cotton-seed was 2,725,197 tons, and of lint, 1,362,599 tons. The cotton-crop of the United States for a series of years, as estimated by the "Financial and Commercial Chronicle," of New York, is as follows:

YEARS.	Bales.	YEARS.	Bales.
1880-'81.....	6,589,329	1866-'67.....	2,059,271
1879-'80.....	5,757,397	1865-'66.....	2,223,987
1878-'79.....	5,073,531	1861-'65.....	No record.
1877-'78.....	4,811,265	1860-'61.....	3,326,086
1876-'77.....	4,435,423	1859-'60.....	4,323,770
1875-'76.....	4,669,288	1858-'59.....	3,994,481
1874-'75.....	3,332,991	1857-'58.....	3,238,902
1873-'74.....	4,170,383	1856-'57.....	3,056,519
1872-'73.....	3,930,503	1855-'56.....	3,645,345
1871-'72.....	2,974,351	1854-'55.....	2,982,339
1870-'71.....	4,352,317	1853-'54.....	3,035,027
1869-'70.....	3,154,946	1852-'53.....	3,352,382
1868-'69.....	2,439,039	1851-'52.....	3,090,029
1867-'68.....	2,493,895	1850-'51.....	2,415,257

The production of bituminous coal in the States east of the 100th meridian, during the year ending June 1, 1880, was as follows:

STATES.	Number of establishments.	Total product in census year, tons.	Value of total product at mines.
Alabama.....	19	323,972	\$476,911
Arkansas.....	14	14,778	33,535
Georgia.....	2	154,644	231,605
Illinois.....	590	6,115,377	8,779,332
Indiana.....	216	1,454,327	2,150,253
Iowa.....	227	1,461,116	2,507,453
Kansas.....	189	771,142	1,516,544
Kentucky.....	65	946,288	1,134,960
Maryland.....	32	2,223,917	2,585,537
Michigan.....	6	100,800	224,500
Missouri.....	144	556,304	1,061,225
Nebraska.....	1	200	750
North Carolina.....	1	350	400
Ohio.....	618	6,008,595	7,719,767
Pennsylvania.....	666	18,425,163	18,567,129
Tennessee.....	20	495,131	629,724
Virginia.....	4	43,079	99,802
West Virginia.....	129	1,830,845	2,013,671
Total.....	2,943	40,940,028	\$49,733,603

The maximum capacity of the yearly production of these mines was 74,154,273 tons; value of materials used in the mines during the year, \$4,661,662; wages paid to all classes of labor during the year, \$30,707,059; total number of hands employed, 96,475; amount used as working capital, \$8,191,960; total capital employed and invested in establishments, \$89,999,101; aggregate of capital, including both establishments and irregular workings, \$93,517,464; number of acres of available coal-lands attached to working establishments, 410,642. A comparison of the production of

bituminous coal east of the 100th meridian during the census year of 1880 with that of 1870 shows the following results:

	Per cent.
Gain in number of mines.....	122·0
Gain in yearly tonnage.....	135·0
Gain in value of yearly product.....	44·0
Gain in value of material used.....	133·0
Gain in amount paid as wages.....	46·0
Gain in total number of employes.....	138·0
Gain in total capital.....	54·0
Decrease in value per ton.....	39·0
Gain in tons raised per man per year.....	3·0
Decrease in yearly earnings.....	36·0
Decrease in cost of labor per ton.....	38·0
Decrease in cost of material per ton.....	1·0
Gain in per cent of value of the product paid for labor.....	0·7
Gain in per cent of value of the product paid for materials.....	3·9
Decrease in per cent of value of the product left for royalty, interest, profits, etc.....	4·6
Gain in number of counties reporting.....	63·0

The above statement illustrates the fact that the fall in price per ton of bituminous coal during the last decade has borne less heavily on labor than on capital.

The production of bituminous coal and lignite west of the 100th meridian was as follows:

STATES.	Number of establishments.	Total product census year, tons.	Value of total product.
California.....	6	236,950	\$663,013
Colorado.....	25	462,747	1,041,350
Montana Territory.....	1	224	800
Oregon.....	3	43,205	97,310
Washington Territory..	5	145,015	339,046
Wyoming Territory.....	6	539,595	1,030,451
Total.....	46	1,477,736	\$3,272,470

In the case of these mines the maximum capacity of yearly production was 2,001,697 tons; total number of hands employed during the census year, 3,441; working capital employed, \$369,931; total capital employed and invested, \$8,479,573.

The following are the statistics of the production of anthracite coal in Pennsylvania:

Number of collieries.....	273
Merchantable product for year ending June 1, 1880, tons.....	27,433,329
Value of product delivered for transportation...	\$40,331,981
Average value of same per ton delivered for transportation.....	\$1 47
Amount of coal washed, tons.....	1,396,506
Ratio of value of product to capital, per cent...	26·86
Ratio of actual output to capacity, per cent.....	67·23
Tons raised yearly per man.....	454·4
Tons raised daily per man.....	2·14
Maximum yearly capacity of all collieries reported, tons.....	40,772,000
Number of employes.....	65,239
Wages paid.....	\$21,630,120
Value of all materials.....	\$6,439,437
Number of acres of coal-lands reported.....	164,352
Working capital.....	\$7,731,953
Total capital, real and personal.....	\$150,161,196

A comparison of the census returns of 1880 and 1870 shows that the output has increased from 15,596,257 tons to 27,433,329 tons, or 11,837,072 tons, a gain of 75·9 per cent, while the gross value has increased only 5·25 per cent. But the value of the product of 1870 was reckoned in paper dollars. The apparent fall of the average price per ton is from \$2.49 to \$1.47, or \$1.02, about 41 per cent, considerably more than the change of standard would account for. The aggregate capital has in-

creased from \$50,807,285 to \$150,161,196, and the total number of employes from 52,882 to 68,239.

In addition to the merchantable product given above, 83 collieries, with a production of 20,295,529 tons, report the production of 7,060,447 tons of impure coal and dust, under the head of "culm." This would be 34·8 per cent of their product, and would indicate a total production of 9,382,086 tons of unmerchantable coal during the census year, to which no value is assigned.

The entire production of coal in the United States during the year ending June 1, 1880, by coal-fields was as follows, in tons of 2,000 pounds.

Bituminous:	
Appalachian field.....	29,842,240
Western field (Illinois, Indiana, etc.).....	8,721,101
Michigan field.....	100,800
Triassic field (Virginia and North Carolina)....	46,246
Iowa and Kansas field.....	2,232,453
All fields west of the 100th meridian.....	1,477,736

Total bituminous..... 42,420,581

Anthracite:

Pennsylvania.....	28,640,319
Rhode Island.....	6,176

Total anthracite..... 28,646,995

Grand total coal production of the United States for the year ending June 1, 1880..... 71,067,576

Grand total of hands employed in coal-mining.. 170,585

The production of coal in England was, in 1855, 64,661,401 tons; in 1877, 136,179,968 tons; and in 1880, 146,818,122 tons. The English ton, however, is 2,240 pounds. The number of collieries in 1880 was, in England, 3,880, and in the United States, 3,264.

The census statistics of iron and steel production were compiled by Mr. James M. Swank, Secretary of the American Iron and Steel Association, and special agent of the census of 1880. The following is a general summary of iron and steel production in the United States for the census year of 1880, as compared with that of 1870:

	1870.	1880.	Percentage of increase in 1880.
Number of establishments.....	808	1,005	24·38
Amount of capital, real and personal, invested	\$121,772,074	\$230,971,884	89·68
Value of all materials used.....	\$135,526,132	\$191,271,150	41·13
Value of all products made.....	\$207,208,696	\$296,557,635	43·12
Weight of all products (tons, of 2,000 lbs.)....	3,655,215	7,265,140	98·76
Total hands employed.....	77,555	140,978	81·78
Total amount paid in wages.....	\$40,514,981	\$40,514,981	36·93

By "establishment" is meant a single manufacturing enterprise, or an aggregation of enterprises of like character under one management. Thus one establishment may embrace two rolling-mills and another four blast-furnaces. If, however, a firm or company operates two or more enterprises of different character, each of these enterprises is classed as a

separate establishment. The following is a comparison of the number of the various establishments in 1870 and 1880:

	1870.	1880.
Blast-furnace establishments.....	886	490
Rolling-mill establishments.....	810	324
Steel-works.....	30	73
Forges and blomaries.....	82	118
Total.....	808	1,005

The size and capacity of the establishments were much greater in 1880 than in 1870. As the capacity of blast-furnaces only was given in 1870, no complete data are available for a comparison of all the works in the two years. The daily capacity of the blast-furnaces in 1870 was 8,357 tons of pig-iron, and in 1880 it was 19,248 tons, an increase of 130.32 per cent. The number of blast-furnaces in 1870 was 574, and in 1880 it was 681, an increase of 18.64 per cent. The following exhibit shows the number and capacity of blast-furnaces, rolling-mills, steel-works, forges, and blomaries, at the close of the census year 1880, i. e., June 1, 1880:

Blast-furnace establishments.....	490
Completed blast-furnaces.....	631
Rolling-mill establishments.....	324
Single puddling-furnaces, each double furnace counting as two single furnaces.....	4,319
Rotary puddling-furnace (Sellers).....	1
Danks puddling-furnaces.....	19
Hammers in iron rolling-mills.....	239
Heating-furnaces.....	2,105
Trains of rolls in iron rolling-mills.....	1,206
Nail-machines.....	3,775
Steel-works.....	73
Bessemer-steel converters.....	24
Open-hearth steel-furnaces.....	37
Pot-holes for crucible steel.....	2,691
Trains of rolls in steel-works.....	186
Hammers in steel-works.....	219
Forges and blomaries.....	118
Forge and blomary fires.....	495
Siemens's rotator.....	1
Hammers in forges and blomaries.....	141
Daily capacity of blast-furnaces in net tons.....	19,248
“ of rolling-mills in net tons.....	16,430
“ of Bessemer-steel converters in net tons.....	4,467
“ of open-hearth steel-furnaces in net tons.....	827
“ of crucible-steel works in net tons.....	445
“ of forges and blomaries in net tons.....	520

The following table shows the production of each branch of the iron and steel industries in 1870 and 1880, with the percentage of increase or decrease in the latter year:

IRON AND STEEL PRODUCTS.	Census year 1870.	Census year 1880.	Percentage of increase in 1880.	Percentage of decrease in 1880.
Pig-iron and castings from furnace.....	Tons. 2,052,821	Tons. 3,731,021	84	..
All products of iron rolling-mills.....	1,441,829	2,353,248	63	..
Bessemer-steel finished products.....	19,403	889,896	4,486	..
Open-hearth steel finished products.....	.....	93,143	....	..
Crucible-steel finished products.....	28,069	70,319	151	..
Blister and other steel.....	2,285	4,956	117	..
Products of forges and blomaries.....	110,808	72,557	....	35
Total.....	3,655,215	7,265,140	99	85

The iron rolling-mill products in 1870 and 1880, comprising bar-iron, rod-iron, nail-plate iron converted into cut nails, boiler-plate iron, etc., were as follows:

PRODUCTS.	1870.	1880.
	Tons.	Tons.
Bar-iron.....	488,884	663,211
Rod-iron.....	26,087	145,626
Nail-plate iron converted into cut nails.....	230,225	252,830
Boiler-plate iron.....	54,477	89,560
All other plate-iron.....	74,753	94,749
Sheet-iron.....	531,605	94,992
Iron nails.....	2,217	466,917
Skelp-iron.....	83,681	128,321
Muck bar, made for sale to other works.....	.....	64,469
Structural iron.....	.....	96,310
Rolled-iron axles.....	.....	2,630
Hoop-iron.....	.....	96,843
Fish-plates and miscellaneous forms of rolled iron.....	.....	48,845
Railroad-spikes, horseshoes, etc., etc., made by iron rolling-mills, not included above.....	.....	82,858
Hammered axles.....	.....	21,884
Forgings.....	.....	3,703
Total.....	1,441,829	2,353,248

In the Bessemer and open-hearth steel-works the following finished products, embracing rails, bars, rods, shapes, sheets, plates, and other forms, were produced during the census year 1880:

FINISHED PRODUCTS.	Bessemer steel.	Open-hearth steel.
	Tons.	Tons.
Rails.....	741,475	9,105
Bars.....	76,710	43,296
Rods.....	49,064	1,134
Shapes.....	557	80
Sheets.....	.....	1,700
Plates.....	1,475	11,034
Other forms.....	20,615	26,794
Total.....	889,896	93,143

In the census year 1870 the production of Bessemer-steel finished products was only 19,403 tons. No open-hearth steel products are reported for that year. The quantity of Bessemer-steel ingots produced in the census year 1880 was 985,208 tons, and the quantity of open-hearth steel ingots was 84,302 tons. No statistics of ingots produced in 1870 are available for comparison. It will be observed that a larger quantity of finished open-hearth steel products was produced in 1880 than of ingots, which is probably due to the carrying over of ingots from the preceding year, and to importations during the census year. The Bessemer steel ingots produced in 1880 are in excess of the finished products. The increase in the production of crucible-steel finished products in the decade between 1870 and 1880 was from 28,069 to 70,319 tons, or 151 per cent. The production of crucible-steel ingots in 1880 was 76,201 tons. The condition of the iron and steel industry in the United States in 1880 and its growth since 1870 are shown in the following table of figures for all blast-furnaces, rolling-mills, steel-works, and blomaries in the United States:-

STATES AND TERRITORIES.	Number of estahlsh- ments.	Capital in- vested.	Hands em- ployed.	Wages paid.	Value of all materials used in the census year 1880.	Value of all products made in the census year 1880.	Weight of all products made in the census year 1880.	Weight of all products made in the census year 1870.
EASTERN :							Net tons.	Net tons.
Maine.....	3	\$450,000	700	\$141,494	\$380,511	\$563,328	10,866	17,188
New Hampshire.....	2	650,000	290	127,690	523,355	807,340	7,978	.....
Vermont.....	4	410,000	191	50,085	240,900	392,300	6,620	1,525
Massachusetts.....	30	6,733,408	6,513	2,576,539	6,657,232	10,233,921	141,321	86,146
Rhode Island.....	3	630,000	275	180,969	375,347	488,040	8,134	4,415
Connecticut.....	19	2,632,000	685	331,184	1,341,225	1,998,698	38,061	25,305
New York.....	89	21,543,221	11,444	4,099,451	13,395,229	22,219,219	508,300	448,257
New Jersey.....	40	9,099,050	4,792	1,808,448	6,556,288	10,341,896	242,860	115,262
Pennsylvania.....	366	107,304,732	57,952	25,095,850	92,267,030	145,576,268	3,616,663	1,836,303
Total.....	556	\$149,507,461	82,342	\$24,361,660	\$121,737,112	\$192,606,010	4,671,808	2,584,356
SOUTHERN :								
Delaware.....	9	\$1,431,469	867	\$344,476	\$1,214,050	\$2,347,177	33,918	8,307
Maryland.....	23	4,962,125	2,763	905,090	2,888,574	4,470,050	110,934	95,424
District of Columbia.....	1	89,600	18	7,528	2,264	10,970	264	.....
Virginia.....	44	4,329,713	2,522	665,432	1,496,151	2,585,999	55,722	37,836
North Carolina.....	20	759,400	63	7,907	11,792	41,085	439	1,801
Georgia.....	14	1,185,900	1,303	185,459	631,707	990,850	35,152	9,634
Alabama.....	14	3,309,196	1,626	571,713	601,073	1,452,856	62,956	7,060
Texas.....	1	40,000	140	27,720	23,580	36,000	1,400	.....
West Virginia.....	20	3,913,616	4,121	1,541,816	3,454,625	6,054,032	147,487	72,337
Kentucky.....	29	5,493,035	4,095	1,844,400	3,223,799	5,090,029	123,751	86,732
Tennessee.....	43	3,681,776	3,077	659,773	1,376,059	2,274,203	77,100	34,305
South Carolina.....	..	.....	.....	.....	.....	.....	.....	448
Total.....	218	\$29,145,830	20,595	\$6,261,344	\$14,953,674	\$25,353,251	649,153	353,879
WESTERN :								
Ohio.....	134	\$25,141,294	20,071	\$3,265,070	\$23,997,915	\$34,918,360	930,141	449,768
Indiana.....	12	2,233,000	2,043	864,921	3,293,073	4,551,403	96,117	64,148
Illinois.....	21	6,460,620	5,253	2,508,718	14,977,145	20,545,239	417,967	25,761
Missouri.....	22	9,152,472	3,139	734,575	3,249,558	4,660,530	125,758	94,890
Michigan.....	22	4,175,836	3,039	922,597	3,279,420	4,591,613	142,716	86,679
Wisconsin.....	9	2,843,218	2,153	1,004,931	3,830,667	6,580,391	178,935	42,234
Minnesota.....	1	150,000	130	25,275	.....	.....	.....	.....
Kansas.....	2	450,000	630	166,500	734,245	1,004,100	19,055	.....
Nebraska.....	1	100,000	100	50,000	114,500	82,000	2,000	.....
Total.....	224	\$50,755,990	36,663	\$14,542,587	\$53,476,523	\$76,933,686	1,912,659	763,480
PACIFIC :								
Colorado.....	1	\$100,000	125	\$7,000	\$131,700	\$225,000	4,500	.....
California.....	1	1,000,000	319	177,722	535,500	780,000	14,000	3,000
Oregon.....	1	100,000	250	46,822	33,073	78,393	3,200	.....
Utah Territory.....	3	150,000	...	.....	.....	.....	.....	.....
Wyoming Territory.....	1	212,603	184	79,650	403,563	491,345	9,790	.....
Total.....	7	\$1,562,603	873	\$311,194	\$1,103,841	\$1,574,738	31,490	3,000
Total of United States, 1880.....	1,005	\$230,971,834	140,978	\$55,476,785	\$191,271,150	\$296,557,635	7,265,140	.....
Total of United States, 1870.....	803	\$121,772,074	77,555	\$40,514,931	\$135,526,132	\$207,208,696	.....	3,655,215
Per cent of increase, 1880....	24·83	89·68	81·77	36·93	41·13	43·12	98·76	.....

The statistics of the production of iron-ore in the United States for the census year 1880 are as follows: Number of establishments, 805; maximum yearly capacity of production, 13,462,917 tons; total production in 1880, 7,971,706 tons, including 909,877 tons irregular product; value of product of establishments, \$20,470,756; value of total product, \$23,167,007; value of all materials used in regular industry, \$2,896,011; wages paid in establishments of regular industry, \$9,538,117; total number of employes, 31,668; total capital employed and invested in the regular industry, \$61,782,287. The change, or rather the increase, in this industry during the decade ending June 1, 1880, expressed in percentages on the returns of the census of 1870, was as follows:

	Per cent.
Gain in number of establishments.....	91·67
Gain in total number of employes.....	110·81
Gain in amount paid as wages.....	39·48
Gain in amount paid for material.....	126·33
Gain in total capital.....	247·61
Loss in value per ton of product.....	25·45
Gain in value of total product.....	75·45
Gain in tonnage of total product.....	135·00
Gain in product of regular establishments...	108·00

The following are the most important figures of the production of copper in the United States east of the 100th meridian: Number of mines, 32; maximum capacity of yearly production, 62,932,871 pounds of metal; product of census year in tons of ore or rock, 1,005,955; product of census year in pounds of ingot copper, 50,655,140; value of product, \$8,842,961; value of materials or supplies used, \$1,391,101; wages paid, \$2,915,103; total number of

employés, 6,116; amount of working capital, \$1,333,125; total capital, \$31,675,096. The Lake Superior region furnishes 90·48 per cent of the entire product, and most of the rest is from Vermont and North Carolina.

The production of precious metals during the year ending June 1, 1880, as returned by the census authorities, comprised 1,614,741 ounces of gold, valued at \$33,379,663, and 31,797,474 ounces of silver, worth \$41,110,957, making a total value of \$74,490,620. The production of deep mines included in the above was 1,033,974 ounces of gold, valued at \$21,374,152, and 31,717,297 ounces of silver, worth \$41,007,296; total, \$62,381,448. The total yield of placer-mines was \$12,109,172, including 580,767 ounces of gold, worth \$12,005,511, and 80,177 ounces of silver, valued at \$103,661. The aggregate product of all mines by States geographically classified was as follows:

STATE OR TERRITORY.	PRODUCT.		
	Gold.	Silver.	Total.
PACIFIC DIVISION.			
Alaska.....	\$5,951	\$51	\$6,002
Arizona.....	211,965	2,325,325	2,537,290
California.....	17,150,941	1,150,837	18,301,828
Idaho.....	1,479,658	464,550	1,944,208
Nevada.....	4,833,242	12,430,667	17,318,909
Oregon.....	1,097,701	27,798	1,125,494
Utah.....	291,587	4,743,087	5,034,674
Washington.....	135,800	1,019	136,819
Total.....	\$25,261,840	\$21,143,879	\$46,405,719
DIVISION OF THE ROCKY MOUNTAINS.			
Colorado.....	\$2,699,398	\$16,549,274	\$19,249,172
Dakota.....	3,805,342	70,813	3,876,155
Montana.....	1,805,767	2,905,063	4,710,835
New Mexico.....	49,354	392,337	441,691
Wyoming.....	17,321	.....	17,321
Total.....	\$7,878,183	\$19,917,492	\$27,795,675
EASTERN DIVISION.			
Alabama.....	\$1,801	.....	\$1,801
Georgia.....	81,029	\$332	81,361
Maine.....	2,999	7,200	10,199
Michigan.....	.....	25,858	25,858
New Hampshire.....	10,999	16,000	26,999
North Carolina.....	118,953	140	119,093
South Carolina.....	18,040	56	18,096
Tennessee.....	1,993	.....	1,993
Virginia.....	9,321	.....	9,321
Total.....	\$239,640	\$49,586	\$289,226
SUMMARY.			
Pacific division.....	\$25,261,840	\$21,143,879	\$46,405,719
Division of the Rocky Mountains.....	7,878,183	19,917,492	27,795,675
Eastern division.....	239,640	49,586	289,226
Total.....	\$33,379,663	\$41,110,957	\$74,490,620

The following estimate of the production of the precious metals in the United States from the year 1848, when the first extensive working for gold was in operation in California, until 1880, and the yield of silver during the same period, prepared by Horatio C. Burdard, Director of the Mint, although the figures for 1880 differ slightly from those of the census for that year, affords a comparison of the present yield with that of former years:

YEAR.	Gold.	Silver.	Total gold and silver.
1848.....	\$10,000,000	.....	\$10,000,000
1849.....	40,000,000	\$50,000	40,050,000
1850.....	50,000,000	50,000	50,050,000
1851.....	55,000,000	50,000	55,050,000
1852.....	60,000,000	50,000	60,050,000
1853.....	65,000,000	50,000	65,050,000
1854.....	60,000,000	50,000	60,050,000
1855.....	55,000,000	50,000	55,050,000
1856.....	55,000,000	50,000	55,050,000
1857.....	55,000,000	50,000	55,050,000
1858.....	50,000,000	50,000	50,050,000
1859.....	50,000,000	100,000	50,100,000
1860.....	46,000,000	150,000	46,150,000
1861.....	43,000,000	2,000,000	45,000,000
1862.....	39,200,000	4,500,000	43,700,000
1863.....	40,000,000	8,500,000	48,500,000
1864.....	46,000,000	11,000,000	57,000,000
1865.....	53,225,000	11,250,000	64,475,000
1866.....	53,500,000	10,000,000	63,500,000
1867.....	51,725,000	13,500,000	65,225,000
1868.....	43,000,000	12,000,000	60,000,000
1869.....	49,500,000	12,000,000	61,500,000
1870.....	50,000,000	16,000,000	66,000,000
1871.....	43,000,000	23,000,000	66,000,000
1872.....	36,000,000	28,750,000	64,750,000
1873.....	36,000,000	35,750,000	71,750,000
1874.....	33,490,902	37,324,594	70,815,496
1875.....	33,467,856	31,727,560	65,195,416
1876.....	39,929,166	38,788,016	78,717,182
1877.....	46,597,330	39,798,573	86,395,903
1878.....	51,206,360	45,281,385	96,487,745
1879.....	38,899,858	40,812,132	79,711,990
1880.....	36,000,000	37,700,000	73,700,000
Total..	\$1,520,041,532	\$460,422,260	\$1,980,463,792

The census returns of silk-manufactures show that there were in the United States 383 factories, with 8,467 looms. The gross value of materials and supplies was \$22,371,300; gross value of manufactured products, \$40,975,285; net value of manufactured products, that is, value of finished goods, \$34,410,463; greatest number of hands employed at any one time during the year, 34,440; total amount of wages paid during the year, \$9,107,835; capital, real and personal, invested in the business, \$18,899,500. Of the \$34,410,463 of finished products, \$12,851,045 is credited to New Jersey, \$9,268,585 to New York, \$5,438,075 to Connecticut, \$3,491,093 to Massachusetts, and \$2,853,165 to Pennsylvania. The finished products of all mills in the United States comprised the following goods:

Sewing-silk.....	\$776,120
Machine-twist.....	6,000,265
Floss-silk.....	219,250
Dress-goods.....	4,115,205
Satins.....	1,101,875
Tie-silks and scarfs.....	606,675
Millinery silks.....	891,955
Other broad goods.....	627,595
Handkerchiefs.....	3,862,550
Ribbons.....	5,955,005
Laces.....	437,000
Braids and bindings.....	999,685
Fringes and dress-trimmings.....	4,950,275
Cords, tassels, passementeries, and millinery trimmings.....	1,866,575
Upholstery and military trimmings.....	1,392,355
Coach-laces and carriage-trimmings.....	37,510
Undertakers', hatters', and fur trimmings.....	59,805
Mixed goods and silk values therein.....	510,763
Total.....	\$34,410,463

URUGUAY (REPÚBLICA ORIENTAL DEL URUGUAY), sometimes also called **BANDA ORIENTAL**. This republic, with an area of 72,170 square miles, is divided into thirteen departments,

with a total population of 440,000, as officially estimated in 1877. Montevideo, the capital, had in 1879 a population of 73,353.

The President is Dr. F. A. Vidal, elected March 15, 1880, as successor to Colonel L. La-torre.

The Cabinet, previous to June, 1881, was composed of the following ministers: Foreign Affairs, Interior, Justice, Public Worship, Public Instruction, and Agriculture, Dr. M. Magariños Cervantes; * Finance, Señor J. Cuestas; War and the Navy, Señor M. Santos, "colonel-major."

The Consul-General of Uruguay for the whole United States is Señor H. Estrazulas, resident in New York.

From the best information obtainable, it would appear that the Uruguayan army numbers 2,360 rank and file, as follows: 1,667 foot, 232 horse, and 294 artillery, with a total of 167 officers.

In the budget for the year 1881 the revenue was estimated at \$7,890,000, and the expenditure as follows:

Legislature.....	\$160,720
Ministry of Foreign Affairs.....	63,524
" of the Interior.....	1,749,783
" of War and the Navy.....	1,785,027
" of Finance.....	605,584
Service of the national debt.....	8,553,805
Total.....	\$7,918,448

The Senate had passed a bill authorizing the issue of Treasury notes to the amount of \$2,000,000, bearing interest at four per cent, in order to cover the deficits of 1879 and 1880. It was presumed that a new tariff bill, before the Chamber of Deputies in January and February, would have the effect of increasing the receipts. One of the prominent measures of the bill was the imposition of sliding duties on breadstuffs. The minister expected that the yield of these resources would balance the budget estimates for 1881. The yield of the Montevideo custom-house for 1878 was \$4,053,518, and that of the *Recebedoria*, \$857,904; against \$3,677,531 and \$660,788 respectively for 1879.

The total national debt consolidated, on January 1, 1880, was reported at \$47,861,042, of which \$30,812,692 represented the home debt. In his message on the occasion of the closing of the legislative sessions, July 15, 1881, President Vidal, referring to the national finances, said: "Thanks to wise measures of economy, the revenue showed an increase of \$1,200,000, and the public funds had advanced from five to fourteen per cent; the cessation of the system followed by my predecessor, of applying a considerable share of the annual receipts to the payment of back liabilities (now funded from year to year), has rendered it possible to make a more equitable distribution among all the creditors; and the amortization debt (four per cent annual sinking fund) is selling at fifteen per cent;

nor does it appear too much to say that it will have doubled in value before the lapse of a year. The improved condition of the Treasury has enabled us to meet all liabilities punctually."

In January, 1880, there still remained unredeemed, to the amount of \$3,495,506, an old paper currency, no longer in circulation or received in the banks, but for the redemption of which there was an appropriation of \$15,000 gold per month.

Pursuant to the agreement of February 20, 1878, the Government is to pay to the committee of bondholders of the consolidated home debt the sum of \$105,000 in specie, to be applied for the extinction of the debt. Owing to a succession of monetary crises, the service of the debt constituted by the "Uruguayan" and the "Montevideo-European" loans was suspended in October, 1875; but certain conditions proposed to and accepted by the creditors enabled the Government to resume the service on January 1, 1878. The interest on the two other debts has always been paid in full.

The following figures represent the values of the foreign trade of the republic for the quinquennial period 1876-80:

YEARS.	Imports.	Exports.
1876.....	\$26,527,000	\$13,727,000
1877.....	30,945,251	15,899,405
1878.....	33,420,133	17,492,159
1879.....	32,595,864	16,645,961
1880.....	39,209,271	19,752,201

Among the countries furnishing the imports in 1879 and 1880, were the following:

COUNTRIES.	1879.	1880.
England.....	\$4,901,283	\$5,815,076
France.....	2,666,631	3,371,200
Spain.....	1,114,443	1,563,160
United States.....	1,125,454	1,248,864
Italy.....	1,093,644	1,523,380
Brazil.....	2,010,001	2,430,662
Germany.....	930,920	1,103,261
Belgium.....	257,563	524,033
Argentina.....	350,592	527,583
Chili.....	73,830	887,314
Cuba.....	258,984	208,891

Some of the countries to which Uruguay sent exports in the same years were as under:

COUNTRIES.	1879.	1880.
France.....	\$3,517,205	\$3,470,477
Brazil.....	3,494,988	3,941,411
Great Britain.....	3,489,284	4,266,043
United States.....	1,960,660	2,847,187
Belgium.....	1,434,587	2,116,740
Cuba.....	1,049,328	899,311
Argentina.....	488,292	928,550
Italy.....	421,099	812,006
Mauritius and Réunion.....	87,520	25,078
Portugal.....	78,189	124,747
Spain.....	76,196	104,561
Cape of Good Hope.....	71,494	.....
Germany.....	43,820	78,798
Chili.....	24,971	84,797
West Indies.....	15,573	19,585
Teneriffe.....	12,176	.....
Peru.....	3,396	.....
Paraguay.....	484	5,249
China and Japan.....	150	850

* On the resignation of Señor Magariños, on September 9th, Señor Vilara took the portfolio of the Interior, and Señor José Vasquez Sagastumet, till then Minister at Rio de Janeiro, the portfolio of Foreign Affairs.

As shown by the first of the foregoing tables, the exports in 1880 were of the total value of \$19,752,201; those shipped through the port of Montevideo amounted to \$10,918,551.

The shipping movements at the port of Montevideo in 1879 and 1880 were as below:

		Sailing-vessels.	Tons.	Steamers.	Tons.
1879	Entered.	693	252,251	351	523,619
	Cleared.	450	167,091	341	519,543
1880	Entered.	692	266,062	384	525,381
	Cleared.	493	190,366	373	522,811

Craft of all kind engaged in the coasting and river trade were entered, in 1880, to the number of 2,906, aggregating 556,887 tons, and cleared to the number of 3,101, aggregating 644,508 tons.

There are 235 miles of railway in operation in the republic, comprising four lines. The telegraph lines, in 1878, were of the total length of 758 miles (including 100 miles of submarine cable), with twenty stations; and the aggregate number of dispatches was 38,310.

In the opening paragraph of the President's message already referred to, Señor Vidal congratulates the Houses on the closing of a legislative session during the course of which no movement of a revolutionary character had occurred.

UTAH. According to the "Bulletin of the United States Census," the Territory of Utah, with a native population of 99,939 and a foreign population of 43,994, contains 26,566 immigrants from Great Britain, 885 from Canada, 12,755 from Denmark, Sweden, and Norway, 1,925 from Germany and Switzerland, and 1,883 from other countries. The number of church-members in Utah and the adjacent districts is given by a Mormon officer at 83,000. This statement admits that the statistics within this limit are far from complete, and adds that no statistics whatever have been gathered respecting the "scattered membership in the States, Mexico, and Canada." It is affirmed by Mormon authorities that there are 14,000 or 15,000 members in Europe, and between 4,000 and 5,000 in New Zealand, the Sandwich Islands, and other missionary districts.

The Mormons confront the movements against polygamy which are made through general public agencies and in Congress with undaunted determination and unabated zeal in seeking proselytes. Within their own Territory, the adherents of the Mormon system are kept under the strictest discipline and in a condition of constant readiness for united action to resist the effect of any measure that may be directed against the institution which they hold to be particular, while their missionaries are active abroad gaining converts and seeing to their transportation to Utah. The missionary organization of the Mormons is one of their strongest arms, and is the institution to which more, perhaps, than to any other single instrumentality, they owe the solid strength which

they have manifested so often and so constantly against all hostile demonstrations. It has been kept actively at work from the first years of the existence of the Church, when missionaries were sent to the Indians, then from Ohio to the Missouri River, then into Canada and through the whole region between the Alleghany Mountains and the Atlantic Ocean. The first missionaries to England were sent out in 1837. An effort was made in 1841 to plant Mormonism in Palestine, but without success. In 1843 emissaries of the Church penetrated to the islands of the South Pacific Ocean. France, Germany, the Scandinavian countries, Italy, Switzerland, and the Sandwich Islands were entered in 1850; the West Indies, British Guiana, Gibraltar, Malta, South Africa, Ceylon, Hindostan, Siam, China, and Australia in 1852. Attempts to enter Prussia and Austria in 1853-'54 were repelled by the governments of those countries. Since the last date few new fields have been occupied, and mission-work is now mainly confined to four or five regions.

The whole organization of the missionary work, the determination of the fields, and the nomination of the missionaries, are under the control of the hierarchy. Theoretically, every white adult male Mormon is authorized to preach and baptize, and so may be sent abroad to save his fellow-men. Hence the supply of "elders" is abundant and practically unlimited. The magnates of the Church decide how many missionaries shall go forth; the number is apportioned as is thought best, and nominations are made by the 375 presidents and bishops, to be confirmed by the popular vote of all the brethren gathered at the great April and October conferences in Salt Lake City. Apparently, no discrimination is exercised in making the nominations, and no appeal is admitted from the appointment. Every missionary goes at his own charges, and no provision is contemplated by the Church for his family or his business during his absence. Commonly, the elders go out in twos, for mutual comfort and assistance, and remain at their posts until the authority that sent them abroad calls them home, the appointments being made for a limited period, varying in length according to the remoteness of the field, from one to three years, generally about two years. While at work, the missionaries are directed from some central superintendence—if in Europe, from Liverpool, with the addition of provincial sub-direction; if in the United States, by some one set to supervise the work in each State or group of States. Provision is made for the free transportation of the converts to the United States, and an account is kept in the Bank of England for that purpose. During the last five years more than eight hundred elders, or an average of about one hundred and sixty a year, have been sent out from Utah as missionaries. In 1880, the semi-centennial year of the Mormon Church, the number was 216; in 1881, it was 189, besides 79 who were sent to Arizona. Of the

800 missionaries sent out in the five years, 284 were assigned to the United States, 111 of them to the Southern States, 219 to Great Britain, 114 to Scandinavia, 17 to the Sandwich Islands, and 13 to New Zealand. In 1880, 80 were sent to the British Isles, 33 to Scandinavian countries, 48 to the Southern States, and 33 to the Northern States; in 1881, 1 to Holland, 3 to Germany, 6 to the Sandwich Islands, 9 to New Zealand, 56 to the Southern States, 33 to the Northern States, 35 to Norway, Sweden, and Denmark, and 89 to England, Scotland, and Wales. Estimating the average duration of an elder's time to be two years, we have a total of about four hundred Mormon missionaries abroad at any given date. The number of converts gathered in by these missionaries can not be so exactly calculated. About 28,740 were brought in between 1840 and 1860. Within the next decade about 25,000 sailed from Europe to Salt Lake City, and about the same number between 1870 and 1882. The whole number from the first ship-load, in 1840 to 1882, may thus be estimated at about 85,000. The annual increase from emigration is not far from 2,000.

A branch of the Mormon Church, called the "Reorganized Church of the Latter-Day Saints," has refused to accept polygamy, and opposes it as earnestly as do the non-Mormon people of the United States. It numbers about 40,000 members, and recognizes Joseph Smith, son of the founder of the Church, as its head. The members of this branch live chiefly in Illinois, and have, according to their own report, 500 churches, 1,500 ministers, and 20,000 communicants. They have sent missionaries to

Utah, by whose means 10,000 Mormons in that Territory have been converted from polygamy. These people have addressed a memorial to Congress, asking for the enactment of laws that will effectually suppress the practice of polygamy, and asserting that that practice is a perversion of their system, and no real part of their faith.

Several church organizations in the United States have established missions and schools in Utah, with the especial purpose of exerting religious and educational influence against Mormonism, the condition of which in May, 1881, was represented as follows: The Presbyterian Church had forty-four commissioned missionary agents, eleven of whom were ministers and thirty-three were teachers. It paid \$20,000 a year for the support of its missionaries, and spent besides between \$5,000 and \$10,000 each year in building churches, furnishing school-houses, etc. The principal schools were at Salt Lake City and Ogden. Seven new ministers and additional teachers were to be sent out to open new stations. The Congregationalists had two ministers and nine teachers, and were to build during the summer a school-building at Salt Lake City, to cost \$20,000. They had lately received an endowment fund of \$3,000 to sustain a free primary school, which would be a feeder to the academy. The Protestant Episcopalians were well sustained in their church, school, and hospital work. The Methodists had ten ministers and eight teachers. Two of the clergymen and four of the teachers received no missionary support. One other teacher was supported by the Woman's Home Mission Society.

V

VENEZUELA (ESTADOS UNIDOS DE), UNITED STATES OF, an independent republic of South America. According to the recent territorial division, Venezuela comprises eight States, one Federal District, and six Territories, which, with their population (in 1881), are as shown in the following list from the Venezuelan legation :

	Population.
Bermúdez.....	257,867
Bolívar.....	51,422
Carabobo.....	159,851
Falcon-Zulia.....	187,051
Guzman Blanco.....	494,002
Lara.....	533,752
Los Andes.....	293,108
Zamora.....	236,371
Distrito Federal.....	69,394
Territories. { Alto Orinoco.....	18,230
{ Amazonas.....	18,060
{ Colon.....	137
{ Colonia Guzman Blanco.....	1,494
{ Goajira.....	33,864
{ Yuruari.....	17,640
Total.....	2,375,243

Caracas, the capital, has a population of 58,000.

The President of the Republic is General A. Guzman Blanco; and the Cabinet in 1881 was composed of the following ministers: Foreign

Affairs, Licentiate R. Seijas; Interior and Justice, General V. Amengual; Finance, Dr. J. P. Rojas Paúl; Fomento, Dr. N. Borges; War and Marine, General E. Lara; Public Credit, Señor N. Ramirez; Public Works, Señor A. Azpurúa; Public Instruction, Dr. A. Dominici.

The Venezuelan *chargé d'affaires* to the United States is Señor Simon Camacho; and the United States Minister to Venezuela is Mr. George W. Carter.

The army comprises 2,240 men of all arms; in time of war the militia is called to active service. The navy consists of two small steamers and two schooners, with an aggregate armament of eight guns, and manned with 200 marines.

In the budget for 1880-'81 the national revenue and expenditure were estimated as below:

REVENUE.	
Customs.....	\$3,854,090
Salt monopoly.....	100,000
Fines, etc.....	12,000
Interest.....	34,000
Octroi.....	640,000
Stamp duty.....	40,000
Total.....	\$4,680,000

EXPENDITURE.

General administration.....	\$2,400,000
Home debt.....	432,000
Foreign debt.....	528,000
Foreign claims.....	208,000
Public instruction.....	545,138
Public works.....	384,862
Total.....	\$4,448,000

Of the amount representing the custom-house yield in the table of the revenue, \$3,840,000 was for import duties, and the remaining \$14,000 for export duties.

The national debt consists of a foreign debt amounting, on June 30, 1879, to \$54,347,818, including interest past due; and a home debt of \$12,962,172, of which \$7,075,208 formed the consolidated five per cents. In 1872 the Government paid interest on its loans, but suspended payment in September, 1878, and resumed in March, 1879.

The following table shows the nature and value of the imports, and the amount of duties collected thereon, for the six months ending December 31, 1877, cotton textile fabrics constituting the heaviest item:

COMMODITIES.	Values.	Duties.
Arms.....	\$44,904 20	\$18,907 70
Building materials.....	1,430 25	583 79
Carriages and harness.....	10,045 23	1,108 26
Cigarettes and materials.....	88,226 13	21,174 55
Coal.....	492 00	.....
Coin, gold and silver.....	466,971 66	.....
Cordage and twine.....	52,398 45	13,039 44
Clothing.....	130,052 95	38,505 62
Delft-ware, fine and common.	63,235 42	53,272 32
Drugs and medicines.....	132,057 32	41,119 63
Flour and meal.....	348,113 97	206,565 89
Furniture.....	40,721 81	24,537 03
Glass and glassware.....	40,436 95	30,666 49
Goods, dress:		
Silk.....	83,441 82	21,427 83
Wool.....	276,492 91	105,235 93
Linen.....	414,513 13	123,645 49
Cotton.....	2,171,743 67	941,410 07
Goods:		
Silk and cotton.....	706 50	162 00
Linen and cotton.....	28,741 59	10,343 47
Wool and cotton.....	39,809 53	19,610 49
Mixed.....	124,769 14	51,052 17
Free of duty.....	514,324 82	.....
Hardware and cutlery.....	217,643 59	60,864 60
Hats and materials.....	122,615 33	51,339 81
Hemp and manufactures.....	97,305 83	27,821 76
Iron, copper, and zinc manufactures.....	285,851 86	.....
Instruments:		
Scientific.....	3,803 49	236 66
Musical.....	20,699 84	4,486 92
Machinery.....	59,126 68	7,005 41
Matches and match-sticks.....	1,561 90	709 11
Metals.....	1,388 57	462 71
Miscellaneous articles.....	143,013 45	66,609 33
Oils and candles.....	199,826 85	106,772 62
Paintings and materials.....	19,487 10	8,984 17
Paper, wrapping.....	13,763 74	9,599 30
Photographs and materials.....	1,873 81	333 71
Printing materials.....	5,611 84	83 04
Provisions.....	584,492 03	151,235 33
Perfumery and hair.....	63,112 84	34,433 63
Sea products.....	17,465 45	3,349 66
Shoes and materials.....	153,439 15	51,199 85
Soap, etc.....	149,417 40	54,975 81
Thread of all kinds.....	87,675 49	20,786 21
Time-keepers, etc.....	52,743 61	3,789 69
Tobacco, leaf and manufactured.....	40,659 24	15,635 13
Wines and liquors.....	417,239 73	242,968 63
Woods, all kinds.....	5,845 77	2,286 99
Total.....	\$7,853,114 09	\$2,734,778 29

The sources of the foregoing imports were as follows:

SOURCES.	Values.	Duties.
Great Britain and colonies...	\$3,063,974 83	\$1,086,817 18
France.....	1,466,400 51	552,479 11
Germany.....	1,292,320 13	466,267 47
United States.....	1,274,167 00	393,726 13
Spain and colonies.....	317,187 70	105,099 87
Dutch colonies.....	182,888 11	67,757 10
Danish colonies.....	139,717 54	16,828 49
United States of Colombia.....	87,404 05	28,012 86
Italy.....	28,651 51	12,541 93
Brazil.....	902 00	248 70
Total.....	\$7,853,114 09	\$2,734,778 29

The total value of the imports (one half of which were breadstuffs and provisions) from the United States for the year ending June 30, 1876, was \$2,587,578, the duties upon which amounted to \$941,235.

The trade between Venezuelan ports and the port of New York, for the year ending June 30, 1879, was as set forth in the following schedules:

EXPORTS TO NEW YORK.

COMMODITIES.	Values.	COMMODITIES.	Values.
Coffee.....	\$2,792,763	Woods.....	\$18,624
Goat-skins.....	245,739	Cotton.....	16,356
Deer-skins.....	204,336	Drugs.....	2,708
Cattle-hides.....	111,033	Various articles..	2,725
Various skins....	83,328		
Cacao.....	53,355		
Barks.....	77,349	Total.....	\$3,607,316

IMPORTS FROM NEW YORK.

SIX MONTHS OF 1878.	Value.	SIX MONTHS OF 1879.	Value.
July.....	\$209,510 64	January.....	\$124,465 37
August.....	135,076 14	February.....	77,139 74
September.....	85,195 70	March.....	154,587 77
October.....	152,633 20	April.....	105,906 44
November.....	168,262 31	May.....	122,822 34
December.....	118,117 28	June.....	112,927 22
		Total for year.	\$1,581,954 15

Venezuela has, besides, a certain trade with Philadelphia, and from Southern ports of the United States receives considerable quantities of lumber—yellow-pine and cypress.

The Venezuelan exports for the six months ending December 31, 1877, were as shown in the following table:

COMMODITIES.	Values.
Coffee.....	\$2,902,262
Gold, uncolned.....	833,563
Cacao.....	569,841
Goat-skins.....	147,752
Hides.....	117,648
Metals.....	60,563
Cotton.....	50,378
Tobacco.....	38,401
Quinia.....	34,665
Deer-skins.....	21,741
Dye-woods.....	16,835
Indigo.....	11,354
Dividivi.....	8,143
Woods, various.....	7,687
Miscellaneous.....	152,178
Total.....	\$5,002,516

The destinations and respective values of the foregoing exports were as follows:

No. 1.

DESTINATIONS.	Cotton.	Indigo.	Cacao.	Coffee.	Goat-skins.	Hides.	Deer-skins.	Dividivl.
United States.....	\$10,211 52	\$9,070 00	\$44,611 55	\$1,718,296 52	\$146,224 76	\$100,429 79	\$17,777 10	\$1,257 91
Germany.....	13,701 74	572 00	14,538 48	795,071 09	777 60	9,447 06	3,795 53	.....
France.....	7,653 04	1,712 00	436,352 84	152,225 22	600 00	8,709 38	168 80	4,822 80
Great Britain and col- onies.....	14,008 60	.....	80,860 70	86,694 23	.....	2,287 96	.....	.....
Spain and colonies....	3,598 00	.....	42,880 80	268 00	.....	126 00	.....	.....
Italy.....	1,200 00	.....	107 00	19,118 22	.....	678 00	.....	683 00
United States of Co- lombia.....	.....	.....	.....	129,730 00	.....	949 00	.....	.....
Dutch colonies.....	.....	.....	40 00	12,919 68	150 00	21 00	.....	1,880 09
Danish colonies.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	\$50,373 00	\$11,354 00	\$569,841 37	\$2,902,262 96	\$147,752 36	\$117,648 19	\$21,741 48	\$8,143 71

No. 2.

DESTINATIONS.	Woods.	Dye-woods.	Metals.	Coin.	Quinia.	Tobacco.	Miscellaneous.	Totals.
United States.....	.....	\$1,148 20	\$15,981 78	\$30,673 26	\$16,982 00	\$5 00	\$18,719 25	\$2,126,388 59
Germany.....	\$1,746 00	6,068 00	28,617 00	.....	9,055 00	27,478 00	12,897 44	918,764 94
France.....	2,144 00	3,324 26	8,840 45	.....	468 00	508 00	6,817 00	629,176 19
Great Britain and col- onies.....	3,442 24	1,854 30	11,160 00	802,895 68	8,110 00	10,182 64	103,269 98	1,074,875 98
Spain and colonies....	.....	1,016 00	.....	.....	.....	.....	887 68	49,036 48
Italy.....	.....	2,975 00	.....	.....	50 00	.....	239 00	24,740 22
United States of Co- lombia.....	.....	.....	.....	.....	.....	.....	5,883 72	129,062 75
Dutch colonies.....	355 00	450 00	963 00	.....	.....	228 00	33,914 72	50,421 40
Danish colonies.....	.....	.....	.....	.....	.....	.....	50 00	50 00
Total.....	\$7,687 24	\$16,835 76	\$60,562 18	\$833,563 94	\$34,665 00	\$38,401 64	\$182,178 77	\$5,002,516 55

The following were the exports to the United States through the port of La Guayra for the year ending December 31, 1880:

COMMODITIES.	Quarter ending March 31.	Quarter ending June 30.	Quarter ending September 30.	Quarter ending December 31.	Total for the year.
Coffee.....	\$92,652 05	\$226,170 67	\$250,231 42	\$157,771 92	\$726,826 06
Hides and skins.....	22,512 28	21,572 28	21,213 86	26,817 82	92,116 24
Cacao.....	1,207 92	29,406 31	22,595 84	6,303 03	59,512 60
Miscellaneous.....	1,657 09	1,100 94	6,824 19	1,183 75	10,765 97
Costs and charges.....	13,301 31	34,281 89	Included.	Included.	47,583 20
Total.....	\$131,330 65	\$312,532 09	\$300,864 81	\$192,076 52	\$936,804 07

The shipping at the port of La Guayra for the year ending September 30, 1880, was as follows:

FLAGS.	From	ENTERED.					
		Steamers.		Sailing-vessels.		Total.	
		Number.	Tons.	Number.	Tons.	Number.	Tons.
British.....	Ports of England.....	65	....	14	....	79	....
French.....	Ports of France.....	74	....	7	....	81	....
German.....	Hamburg and New York.....	54	....	15	....	69	....
United States.....	Ports of the United States.....	1	615	15	3,669	16	4,284
Danish.....	Hamburg.....	..	....	12	....	12	....
Italian.....	Italian ports.....	..	....	5	....	5	....
All others.....	Mostly of Germany.....	..	....	12	....	12	....
Totals....	.....	194	.....	80	.....	274	.....

FLAGS.	To	CLEARED.					
		Steamers.		Sailing-vessels.		Totals.	
		Number.	Tons.	Number.	Tons.	Number.	Tons.
British.....	Ports of England.....	64	....	13	....	77	....
French.....	Ports of France.....	75	....	8	....	83	....
German.....	Hamburg and New York.....	56	....	14	....	70	....
United States.....	Ports of the United States.....	1	615	15	3,669	16	4,284
Danish.....	Hamburg.....	..	....	11	....	11	....
Italian.....	Italian ports.....	..	....	6	....	6	....
All others.....	Mostly of Germany.....	..	....	11	....	11	....
Totals.....	.....	196	.....	78	.....	274	.....

A bi-monthly steam service was established between La Guayra and New York in November, 1879, the route having been shortly afterward modified *via* the Island of Curaçoa, with which Venezuela carries on a considerable trade.

The only railway line so far in operation in the republic is that from Tucácas to the mines of Aroa, about seventy miles. Among the additional lines projected are those from La Guayra to Carácas, from Puerto Cabello to Valencia, and from the head of Lake Maracaibo to a point in the neighboring republic of Colombia. "Should these lines be completed," says United States Consul Barnes,* from whose dispatches to the Department of State the foregoing statistics have mainly been drawn, "it is likely that the foreign commerce of Venezuela would be considerably increased, and her relations with the world bettered."

VERMONT. Among the laws of general interest passed by the Legislature of Vermont at the session of 1881, the most important is considered to be the "Act to equalize taxation." The results of its provisions are confidently expected to greatly increase the revenue. The valuation of real estate heretofore has been exceedingly unequal, and varied from one quarter to three quarters of its value; also above three fourths of what is termed personal property are said to have escaped taxation entirely. The new law requires assessors to appraise real estate at its cash value, namely, not at what it could be sold for at auction, or at a forced sale, but at what it might easily be sold for at a private sale. This must be fixed by the judgment of the assessors, and may for that reason differ in different localities. This, with the owner's statement under oath, will constitute the basis of valuation. The rate of State taxation is fixed by the act at seventeen cents on the hundred dollars, or at \$1.70 on every thousand dollars.

The grand list of Vermont for 1881, made up of complete returns received from all the towns in the State by August 1st, in accordance with the provisions of the new law, and filed in the Secretary's office, was as follows:

73,648 polls, at \$2, is.....	\$14,729,600
Real estate appraised at.....	102,437,102
Personal property.....	46,896,967

Total polls and property valuation... \$164,063,669

In 1880 the total valuation of polls was \$14,491,200; of real estate, \$71,017,981; of personal property, \$15,375,533; total, \$100,350,009.

The increased polls and property valuation in the State is as follows: On polls, \$761,600; on real estate, \$31,419,121; on personal property, \$31,521,434; total gain, \$63,702,155. This is an appreciation in the appraised personal property of the State under the new law of nearly 300 per cent, and of the real estate of about 45 per cent.

* Formerly commercial agent at La Guayra, and afterward appointed consul to Curaçoa.

The State finances for the year ending July 31, 1881, were as follows: Receipts, including cash in the Treasury and in bank on August 1, 1880, \$519,360.95; expenditures, \$414,548.89; leaving in the Treasury, on August 1, 1881, a cash balance of \$104,712.06.

The assets of the State then were:

Cash on hand and on deposit.....	\$104,712 06
Deduct due towns and bonds overdue..	12,610 00
Leaving cash available.....	\$92,102 96
Add State tax on list of 1881.....	270,000 00
Total available assets.....	\$362,102 06

The liabilities of the State consist of \$155,500, represented by State bonds of Agricultural College fund to the amount of \$135,500, and \$20,000 in outstanding checks for United States surplus fund due towns. The court orders drawn have been reduced from \$83,826.85 to \$43,714.88 in 1881. Fines and costs paid into the Treasury have increased from \$14,089.53 in 1877, to \$33,067.58 in 1881. The net court expenses have been reduced from \$113,237.12 in 1877, to \$47,586.16 in 1881.

The material interests of Vermont, especially the agricultural, industrial, and manufacturing, are reported to have been "exceptionally prosperous" in 1881. The industrial and manufacturing establishments in the State have been run to their fullest capacity during the year, and have done a much larger business in their various kinds than ever before. Respecting the products of the soil and the industries connected with it, several among them are stated in detail as follows: "The winter months (January to March) were favorable for lumbering, and a large quantity of spruce, hemlock, maple, and pine was cut in the forests. The maple-sugar production was the largest for several years, and is estimated to have approximated 12,000,000 pounds, and to have brought an average price of nine cents per pound, or over \$1,000,000. The hay-crop was about an average one, taking the State as a whole, and fair prices were realized. The crop doubtless exceeded 1,000,000 tons, valued at \$10,000,000. The pasturage was excellent up to December, and even in that month many farmers turned their cattle out to grazing. The cereal crop was the largest harvested for many years, and is said to have exceeded 8,000,000 bushels, approximating \$5,000,000 in value. The potato-crop was good, and prices ranged high. The yield of this vegetable was about 4,500,000 bushels, and at an average price of sixty cents a bushel would bring \$2,760,000. The production of butter was large, and commanded good prices. The yield of apples in the Champlain Valley was unusually large, but in other sections there was not a full crop. The wool clipped in Vermont was about an average amount—2,500,000 pounds. Miscellaneous articles of farm produce have done well, and brought remunerative prices.

The present condition of the educational interest in Vermont is shown by the following statistics: The children of school age in the State number 79,238, distributed over 2,349 school districts, and attending 2,597 public schools. These schools are maintained by the State, at an annual expense of \$446,216. The number of teachers employed in the public schools is 4,359, and the aggregate amount of salaries paid them is \$360,320 per annum. The yearly average cost of each school-child to the State is about \$5.93. There are 7,123 scholars who attend other than public schools. The State has three normal schools, for the maintenance of which it contributes about \$12,000 annually.

Vermont has nineteen incorporated academies, with 105 teachers and 2,545 scholars. Their income from tuition amounts to \$25,692; in addition to which they receive \$17,000 annually from endowment funds.

There are also nineteen graded schools in the State, with 6,036 scholars, having 129 teachers. Of these graded schools St. Albans High-School takes the lead, having 1,077 scholars, 19 teachers, and tuition receipts of \$841. Rutland has 936 scholars, and received \$385 tuition money. St. Johnsbury has 558 scholars, with \$60 for tuition. Bennington shows the number attending her graded schools to be 611, and the tuition fund to amount to \$446.

There is also a considerable number of excellent private and parochial schools in the State.

The Legislature of the State at the last session, by inadvertency, it is said, repealed that section of the law which provided for the salary and expenses of the State Superintendent of Education for the ensuing two years. On this account, Justus Dartt, reputed to be eminently qualified for performing the duties of that office, declined the appointment tendered to him by the Governor (Farnham) at the beginning of 1881. Subsequently the Governor removed the cause of Mr. Dartt's refusal by himself assuming the obligation for the payment of the Superintendent's salary and expenses, in which personal guarantee he was joined by some twenty prominent citizens. Upon this security, Mr. Dartt accepted the appointment. The amount of the Superintendent's salary and expenses is about four thousand dollars; his duty, among others, being "to visit the various towns in the State and examine into the condition of their schools, with a view to supply their wants; to hold educational meetings in each county; and to conduct the examinations in the several normal schools."

The improvement and alterations in the Reform School Building, for which the Legislature some years ago appropriated \$10,000, have been executed and were brought to completion by the close of 1881. The number of inmates in the school, on July 31, 1880, was 122—boys 103, girls 19; at the close of the year 1881 it

was 96—boys 78, girls 18; showing a decrease of 26 in the eighteen months intervening.

The population of the State by counties, in 1880 and in 1870, was as follows:

COUNTIES.	1880.	1870.
Addison.....	24,173	23,484
Bennington.....	21,950	21,325
Caledonia.....	23,607	22,285
Chittenden.....	32,792	36,480
Essex.....	7,981	6,811
Franklin.....	30,225	30,291
Grand Isle.....	4,124	4,082
Lamoille.....	12,684	12,448
Orange.....	23,525	23,090
Orleans.....	22,053	21,035
Rutland.....	41,829	40,651
Washington.....	25,404	26,520
Windham.....	26,768	26,036
Windsor.....	35,196	36,063
The State.....	332,286	330,551

VIRGINIA. Public interest in the State of Virginia was largely concentrated during the year upon the settlement of the debt. In January, the Supreme Court of the United States rendered a decision in the case of *Hartmann vs. Greenhow*, Treasurer of the city of Richmond, passing upon the validity of the funding act of 1871 and subsequent legislation. The act of 1871 provided that the coupons of the bonds to be issued should be "receivable at and after maturity for all taxes, debts, dues, and demands due the State." In 1872 an act was passed declaring that thereafter it should "not be lawful for the officers charged with the collection of taxes or other demands of the State," then due or thereafter to become due, "to receive in payment thereof anything else than gold or silver coin, United States Treasury notes, or notes of the national banks of the United States." The validity of this act was attacked in the courts, on the ground that it impaired the obligations of a contract with the holders of the bonds, and this view was upheld by both the State and Federal tribunals. Then, in 1873, the Legislature passed an act providing that from the interest payable out of the Treasury on bonds of the State, whether funded or unfunded, there should be retained a tax equal in amount to fifty cents on the one hundred dollars of their market value on the first day in April of each year, and made it the duty of every officer of the Commonwealth charged with the collection of taxes to deduct from the matured coupons which might be tendered to him in payment of taxes, or other dues to the State, such tax as was then or might thereafter be imposed on the bonds. The act, in terms, applied to all bonds of the State, whether held by her own citizens or non-residents and citizens of other States or countries. In 1874 the Legislature modified this provision so that the tax on the bonds should not be retained from the interest paid on them when they were the property of non-residents of the Commonwealth. But this exemption was omitted in the act of 1876 providing for the assessment of taxes in the State,

in which the provision of the act of 1873 was inserted. It was the validity of this provision that was presented for the determination of the Supreme Court in the case of *Hartmann vs. Greenhow*. The following is the conclusion of a long opinion of the court in which the questions involved were fully discussed:

The funding act stipulated that the coupons should be receivable for all taxes and dues to the State—that is, for taxes and dues owing by the holders of the coupons, and for their full amount; and upon this pledge the holders of the bonds of the State surrendered them and took new bonds for two thirds of their amount. The act of 1876 declares that the coupons shall not be thus received for taxes and dues owing by the holders of them for their full amount, but only for such portion as may remain after a tax subsequently levied upon the bonds to which they were originally attached is deducted, though the bonds be held by other parties. If this act does not impair the contract with the bondholder—who was authorized to transfer to others the coupons with this quality of receivability for taxes annexed—and also the contract with the bearer of the coupon written on its face that it should be received for all taxes due the State—it is difficult to see in what way the contract with either would be impaired, even though the tax on the bond should equal the whole face of its coupons. If, against the express terms of the contract, the State can take a portion of the interest in the shape of a tax on the bond, it may at its pleasure take the whole.

We are clear that this act of Virginia of 1876 (section 117), requiring the tax on her bonds, issued under the funding act of March 31, 1871, to be deducted from the coupons originally attached to them when tendered in payment of taxes or other dues to the State, can not be applied to coupons separated from the bonds, and held by different owners, without impairing the contract with such bondholders contained in the funding act, and the contract with the bearer of the coupons. It follows that the petitioner was entitled to a writ of *mandamus* to compel the Treasurer of the city of Richmond to receive the coupons tendered to him in payment of taxes due the State for their full amount.

Mr. Justice Miller dissented, saying:

In addition to the general proposition which I have always maintained, that no Legislature of a State has authority to bargain away the State's rights of taxation, I am of opinion that in issuing the bonds and coupons which are the subject of this controversy the Legislature of Virginia, neither in terms nor by any just inference, made any contract that the bonds and coupons should not be subject to the same taxes as other property taxed by the State.

Meantime the operation of the funding act as a settlement of the debt question had long since ceased, the compromise plan embodied in the McCulloch bill of 1879 had been rejected, the Riddleberger readjustment bill had been vetoed by the Governor, and the question remained open, and constituted the chief issue in the political canvass of the year.

A convention of colored people was held at Petersburg on the 14th and 15th of March, which was somewhat divided upon the question of supporting the political movement of the Readjusters. This division led to the withdrawal of a portion of the delegates who were opposed to the movement.

The members of the convention who did not approve of its action entered a protest against it, and issued an address to the people.

The State Convention of the Readjuster party was held at Richmond on the 2d and 3d of June. There were several candidates for the nomination for Governor, the most prominent of whom were William E. Cameron, John E. Massey, J. S. Wise, and V. D. Groner. On the second day, and after several ballots had been taken, Colonel Cameron received the nomination. John F. Lewis, a Republican, was made the candidate for Lieutenant-Governor. Captain Frank S. Blair, a Greenbacker, was nominated for Attorney-General. The platform adopted was as follows:

1. We recognize our obligations to support the institutions for the deaf, dumb, and blind, the lunatic asylum, public free schools, and government in this State, out of the revenues of the State, and we deprecate and denounce that policy of ring-rule and subordinate sovereignty which for years borrowed money out of banks, at high rates of interest, for the discharge of these paramount trusts, while our revenues were left to the prey of commercial exchanges, available to the State only at the option of speculators and syndicates.

2. We reassert our purpose to settle and adjust our State obligations on the principles of the "bill to re-establish the public credit," known as the Riddleberger bill, passed by the last General Assembly and vetoed by the Governor. We maintain that this measure recognizes the just debt of Virginia, in this, that she assumes two thirds of all the money Virginia borrowed and sets aside the other third to West Virginia to be dealt with by her in her own way and at her own pleasure; that it places those of her creditors, who have never received but a six-per-cent installment of interest in nine years upon exact equality with those who, by corrupt agencies, were enabled to absorb and monopolize our means of payment; that it agrees to pay such rate of interest on our securities as can with certainty be met out of the revenues of the State, and that it contains all the essential features of finality.

3. We reassert our adherence to the constitutional requirement for "equal and uniform taxation" of property, exempting none except that specified by the Constitution, and used exclusively for religious, charitable, and educational purposes.

4. We reassert that the paramount obligation of the various works of internal improvement is to the people of the State, by whose authority they were created, by whose money constructed, and by whose graces they live; and it is enjoined upon our representatives and executive officers to enforce the discharge of that duty, to insure to our people such rates, facilities, and connections as will protect every industry and interest against discrimination, tend to the development of their agricultural and mineral resources, encourage the investment of active capital in manufactures and profitable employment of labor in industrial enterprises, grasp for our cities and for the whole State these advantages to which by their geographical position they are entitled, and fulfill all the great public ends for which they were designed.

5. The Readjusters hold the right to a free ballot to be a right preservative of all rights, and that it should be maintained in every State of the Union. We believe a capitation tax a restriction upon suffrage in Virginia, and to be in conflict with the fourteenth amendment to the Constitution of the United States. We believe it is a violation of that condition of the reconstruction wherein a pledge was given, not to so amend our State Constitution as to deprive any citizen or class of citizens of the right to vote, except as a punishment for such crimes as are felony at common law. We believe such prerequisite to voting to be contrary to the genius of our institutions, the very foundation of which is representation as antecedent

to taxation. We know it has been a failure as a measure for the collection of revenue, the pretended reason for the innovation in 1876, and we know the base, demoralizing, and dangerous uses to which it has been prostituted. We know it contributes to the increase of monopoly power and to corrupting the voter. For these and other reasons we adhere to the purpose hitherto expressed to provide more effectual legislation for the collection of this tax dedicated by the Constitution to the public free schools, and to abolish it as a qualification for and restriction upon suffrage.

6. The Readjusters congratulate the whole people of Virginia on the progress of the last few years in developing the mineral resources and promoting the manufacturing enterprises in the State, and they declare their purpose to aid these great and growing industries by all proper and essential legislation, State and Federal. To this end they will continue their efforts in behalf of more cordial relations between the sections and States, and especially for the concord and harmony which will make the country know how earnestly and sincerely Virginia invites all men into her borders as visitors or to become citizens without fear of social or political ostracism; that every man, from whatever section of the country, shall enjoy the fullest freedom of thought, speech, politics, and religion, and that the State which first formulated these as fundamental in free government is yet the citadel for their exercise and protection.

The call for the regular Democratic or Conservative Convention was issued early in the year, but the convention was not held until the 4th of August. It took place in Richmond, and the proceedings occupied two days. The following platform was unanimously adopted before the nominations were made:

The Conservative-Democratic party of Virginia—Democratic in its Federal relations and Conservative in its State policy—assembled in convention, in view of the present condition of the Union and of this Commonwealth, for the clear and distinct assertion of its political principles, doth declare that we adopt the following articles of political faith:

1. Equality of right and exact justice to all men, special privileges to none; freedom of religion, freedom of the press, and freedom of the person under the protection of the *habeas corpus*; of trial by juries impartially selected, and of a pure, upright, and non-partisan judiciary; elections by the people, free from force or fraud of citizens, or of the military and civil officers of government; and the selection for public offices of those who are honest and best fitted to fill them; the support of the State governments in all their rights as the most competent administrators of our domestic concerns and the surest bulwarks against anti-republican tendencies; and the preservation of the General Government in its whole constitutional vigor as the sheet-anchor of our peace at home and our safety abroad.

2. That the maintenance of the public credit of Virginia is an essential means to the promotion of her prosperity. We condemn repudiation in every shape and form as a blot upon her honor, a blow at her permanent welfare, and an obstacle to her progress in wealth, influence, and power; and that we will make every effort to secure a settlement of the public debt, with the consent of her creditors, which is consistent with her honor and dictated by justice and sound public policy; that it is eminently desirable and proper that the several classes of the debt now existing should be unified, so that equality, which is equity, may control in the annual payment of interest and the ultimate redemption of principal; that with a view of securing such equality we pledge our party to use all lawful authority to secure a settlement of the State debt so that there shall be but one class of the public debt; that we will use all lawful and constitutional means in our power to secure a settlement of the State debt

upon the basis of a three-per-cent bond, and that the Conservative-Democratic party pledges itself, as a part of its policy, not to increase the present rate of taxation.

3. That we will uphold, in its full constitutional integrity and efficiency, our public-school system for the education of both white and colored children—a system inaugurated by the Constitution of the State and established by the action of the Conservative party years before it was required by the Constitution; and will take the most effectual means for the faithful execution of the same by applying to its support all the revenues set apart for that object by the Constitution or otherwise.

4. Upon this declaration of principles we cordially invite the co-operation of all Conservative Democrats, whatever may have been, or now are, their views upon the public debt, in the election of the nominees of this convention and in the maintenance of the supremacy of the Democratic party in this State.

Resolved, further, That any intimation, coming from any quarter, that the Conservative-Democratic party of Virginia has been, is now, or proposes to be opposed to an *honest ballot* and a *fair count*, is a calumny upon the State of Virginia as unfounded in fact as it is dishonorable to its authors.

Resolved, That special efforts be made to foster and encourage the agricultural, mechanical, mining, manufacturing, and other industrial interests of the State.

John W. Daniel was nominated as the candidate for Governor at the close of the first day's proceedings. On the following day the ticket was completed by the nomination of James Barbour for Lieutenant-Governor, and Philip W. McKinney for Attorney-General.

It had been the plan of some of the Republican leaders to hold no State Convention, but to form a coalition with the Readjusters by taking part with them in their own convention. This was in part carried out, the Republicans joining in the election of delegates to the convention of June 2d in many cases, but there was a considerable element of the party which was dissatisfied with this course, and averse to the proposed coalition. John F. Lewis, who was nominated by the Readjusters as their candidate for Lieutenant-Governor, was chairman of the Republican State Central Committee. On the 11th of June he called a meeting of the committee, to be held at Richmond on the 21st, but subsequently, on the 16th, postponed the date to the 28th. A part of the committee met, however, on the 21st, and, in the absence of Mr. Lewis, General W. C. Wickham was called to the chair, and the following resolutions were adopted, by a vote of 15 to 2:

Whereas, On the 11th day of February, 1881, the State Central Committee of the Republican party adopted by a unanimous vote (all the members being present in person or by proxy) the following resolution:

Resolved, That the well-being of the Republican party in Virginia demands that no member of a Republican organization or committee shall be at the same time a member of any political organization or committee which does not acknowledge allegiance to the Republican party and its principles, and any such member so acting shall thereby vacate his position as a member of the Republican committee or organization, and a Republican shall be elected forthwith in his stead; and

Whereas, The Hon. John F. Lewis, by accepting a

position on the State ticket of the Readjuster party, has, under the operation of that resolution, vacated the position of chairman of the Central Committee: now, therefore, be it

Resolved, That this committee proceed at once to fill said vacancy by the election of a chairman.

General Wickham was accordingly chosen chairman, and resolutions were adopted in favor of holding a Republican convention at Staunton on the 24th of August. The following were also adopted:

Resolved, That the State Central Committee of the Republican party of Virginia do hereby caution the Republicans that the effort to disrupt our party inaugurated in the spring of 1880 is still being attempted, and we urge upon all good Republicans to be watchful of the interests of their party. We urge them to see to it that their county and city organizations are constituted of their best and most reliable men, and see that the delegates which they send to the State Convention are men who can not be swerved from their allegiance to Republican principles, and who will not yield the integrity of the organization of the Republican party of Virginia.

Resolved, That the State Central Committee, now in session, out of abundant caution, do adjourn to meet in this place on Tuesday, the 28th day of June, 1881.

At the meeting of the committee on the 28th, Mr. Lewis claimed that the action of the previous meeting was unauthorized and invalid. After a warm discussion the differences were composed by the withdrawal of both Wickham and Lewis, and the choice of J. W. Cochran, colored, as chairman of the committee, and an agreement for a convention at Lynchburg on the 10th of August. A contest was immediately developed in the canvass for delegates between those who favored a coalition of the Republicans and Readjusters and those who desired the nomination of a "straight" Republican ticket. When the date for holding the convention arrived, the antagonism was so strong, and the determination of each faction not to yield to the other so decided, that the State Central Committee divided and engaged separate halls, and two conventions were held instead of one. A conference committee, on the eve of the convention, presented the following propositions to the two bodies:

1. It is recommended by the joint committee that no Republican candidates for State offices shall be nominated by the convention assembled at Holcombe Hall, and no indorsement of any gubernatorial ticket be made by the convention now assembled in the opera-house.

2. It is further recommended that Republican candidates be nominated in all counties and senatorial districts in which the Republicans have a majority, and in which the local organizations deem such nominations advisable.

3. That the present State Central and State Executive Committees of the Republican party of Virginia remain as at present constituted, and take no active part in a campaign in which the party has no candidates in the field.

4. That the members of this joint conference committee pledge themselves to endeavor to secure the passage of these resolutions by the conventions now in session.

After some discussion these were unanimously rejected by the gathering which favored co-

alition, and the following platform was adopted:

The Republicans of Virginia, by their duly appointed delegates in convention assembled, do resolve—

1. That the Bourbon-Democratic party of Virginia, by its most recent official utterances, has shown that it is false to its professions respecting the credit of the State, and that it again seeks to deceive both the people and creditors by means of fair promises which it never means to fulfill.

2. That the Bourbon-Democratic party of Virginia is now, as ever in its past history, opposed to the true interests and welfare of the people; opposed to free and fair elections and an honest count, as evidenced by its determination to uphold the unrepugnant laws which require the payment of a capitation tax as a prerequisite to the exercise of the right of suffrage; and opposed to free public schools for the education of the children of all the people.

3. That the Anti-Bourbon, or Liberal, party, has shown by its acts, since it obtained control of the Legislature and partial control of the State government, the sincerity of its professions in favor of the faithful collection and honest expenditure of the public revenues as designed by the Constitution and laws of the State, in favor of free and fair elections, in favor of impartial juries and the impartial execution of the laws, and in favor of public education.

4. That in view of this condition of political affairs, and abating no part of our determination to deal justly with all the creditors of Virginia, and to labor to pay every dollar that she honestly owes her creditors, we deem it inexpedient and unwise to make separate nominations for State officers, and we declare in favor of hearty co-operation with all other citizens who support the candidates nominated by the Anti-Bourbon or Liberal Convention held in the city of Richmond June 2 and 3, 1881.

5. That as Republicans we earnestly invite all other Republicans to join their efforts with ours for the final overthrow of Bourbon oppression, intolerance, and tyranny in the State of Virginia.

The "Straight-outs" also rejected the conference report, and voted down, 39 to 46, a proposition to make nominations. They were far from agreed among themselves, and held another meeting the next day, at which the following platform was adopted:

Whereas, It is proper that when the people assemble in convention they should avow distinctly the principles of government on which they stand: now, therefore, be it

Resolved, 1. That we, the Republicans of Virginia, hereby make a declaration of our allegiance and adhesion to the principles of the Republican party of the country, and our determination to stand squarely by the organization of the Republican party of Virginia, always defending it against the assaults of all persons or parties whatsoever.

2. That, among the principles of the Republican party, none is of more vital importance to the welfare and interest of the country in all its parts than that which pertains to the sanctity of government contracts. It therefore becomes the special duty and province of the Republican party of Virginia to guard and protect the credit of our time-honored State, which has been besmirched with repudiation or received with distrust by the gross mismanagement of the various factions of the Democratic party which have controlled the legislation of the State.

3. That the Republican party of Virginia hereby pledges itself to redeem the State from the discredit that now hangs over her in regard to her just obligations for moneys loaned her for constructing her internal improvements and charitable institutions, which, permeating every quarter of the State, bring benefits of far greater value than their cost to our whole peo-

ple; and we, in the most solemn form, pledge the Republican party of the State to the full payment of the whole debt of the State, less the one third set aside as justly falling on West Virginia.

4. That the industries of the country should be fostered through protective laws so as to develop our own resources, employ our own labor, create a home market, enhance values, and promote the happiness and prosperity of the people.

5. That the public-school system of Virginia is the creature of the Republican party; and we demand that every dollar the Constitution dedicates to it should be sacredly applied thereto as a means of educating the children of the State, without regard to condition or race.

6. That the elective franchise, as an equal right, should be based upon manhood qualifications, and that we favor the repeal of the requirements of the prepayment of the capitation tax as a prerequisite to the franchise as opposed to the Constitution of the United States, and in violation of the condition whereby the State was readmitted as a member of our constitutional Union, as well as against the spirit of the Constitution, but demand the imposition of the capitation tax as a source of revenue for the support of the public schools without its disfranchising effects.

7. That we favor the repeal of the disqualification for the elective franchise by a conviction of petty larceny, and the infamous laws which place it in the power of a single justice of the peace—oftimes being more corrupt than the criminal before him—to disfranchise his fellow-man.

8. Finally, that we urge the repeal of the barbarous law permitting the imposition of stripes as degrading and inhuman, contrary to the genius of a true and enlightened people, and a relief of barbarism.

A committee on nominations reported a ticket as follows: For Governor, William C. Wickham, of Hanover; for Lieutenant-Governor, S. M. Yost, of Augusta; for Attorney-General, Judge Willoughby, of Alexandria. Wickham and Yost, although they had been foremost in urging independent nominations, declined to be candidates, and the name of

Judge Willoughby was then withdrawn, and the matter left in the hands of the State Committee.

The election took place on the 8th of November, and resulted in the success of the Readjuster or "Liberal" ticket. The vote, as officially declared in the General Assembly at its meeting in December, was as follows:

Whole vote cast for Governor.....	211,240
For William E. Cameron.....	111,473
For John W. Daniel.....	99,757
Scattering.....	10
Whole vote cast for Lieutenant-Governor...	212,983
For John F. Lewis.....	111,259
For James Barbour.....	99,629
For John S. Lewis.....	1,155
For James S. Barbour.....	935
Scattering.....	10

Cameron's majority for Governor was 11,716 over Daniel, Lewis's for Lieutenant-Governor 11,630 over Barbour, and Blair's majority over McKinney for Attorney-General was 12,273.

The Legislature began its regular biennial session on the 7th of December. It consisted of 23 Readjusters and 17 Democrats in the Senate, and 58 Readjusters and 42 Democrats in the House, making a Readjuster majority of 6 in the Senate and 6 in the House, or 12 on joint ballot. On the 20th of December a vote was taken in the two Houses for United States Senator, to succeed General Johnston in 1883. Mr. H. H. Riddleberger was the Readjuster candidate, General Johnston being supported for re-election by the Democrats. The vote was 22 for Riddleberger and 13 for Johnston in the Senate, and 59 for Riddleberger and 37 for Johnston in the House. One vote was cast for General William C. Wickham.

The following table gives the population of Virginia, by counties, in 1880, as compared with the corresponding figures for 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Accomack.....	24,408	20,409	Frederick.....	17,553	16,596	Nottoway.....	11,156	9,291
Albemarle.....	32,613	27,544	Giles.....	8,794	5,875	Orange.....	13,052	10,396
Alexandria.....	17,546	16,755	Gloucester.....	11,876	10,211	Page.....	9,965	8,462
Alleghany.....	5,586	3,674	Goochland.....	10,292	10,318	Patriek.....	12,833	10,161
Amelia.....	10,377	9,873	Grayson.....	13,068	9,587	Pittsylvania.....	52,559	31,943
Amherst.....	13,709	14,900	Greeno.....	5,330	4,634	Powhatan.....	7,817	7,667
Appomattox.....	10,080	8,950	Greenville.....	8,407	6,362	Prince Edward..	14,668	12,004
Augusta.....	35,710	28,763	Halifax.....	33,588	27,823	Prince George..	10,054	7,820
Bath.....	4,482	3,795	Hanover.....	13,588	16,455	Princess Anne..	9,394	8,273
Bedford.....	31,205	25,327	Henrico.....	82,703	66,179	Prince William..	9,150	7,504
Blad.....	5,004	4,000	Henry.....	16,009	12,303	Pulaski.....	8,755	6,538
Botetourt.....	14,809	11,329	Highland.....	5,164	4,151	Rappahannock..	9,291	8,261
Brunswick.....	16,707	13,427	Isle of Wight...	10,572	8,320	Richmond.....	7,195	6,503
Buchanan.....	5,694	3,777	James City.....	5,422	4,425	Roanoke.....	13,105	9,350
Buckingham.....	15,540	13,371	King and Queen.	10,502	9,709	Rockbridge.....	20,003	16,058
Campbell.....	36,250	28,334	King George....	6,397	5,742	Rockingham.....	29,567	23,668
Caroline.....	17,243	15,123	King William....	8,751	7,515	Russell.....	13,906	11,103
Carroll.....	13,323	9,147	Lancaster.....	6,160	5,355	Scott.....	17,233	13,036
Charles City.....	5,512	4,975	Lee.....	15,116	13,263	Shenandoah.....	18,204	14,936
Charlotte.....	16,653	14,513	Loudoun.....	23,634	20,929	Smyth.....	12,160	8,593
Chesterfield.....	23,055	13,470	Louisa.....	18,942	16,332	Southampton....	15,012	12,285
Clarke.....	7,632	6,679	Lunenburg.....	11,535	10,403	Spottsylvania...	14,828	11,723
Craig.....	8,794	2,942	Madison.....	10,562	8,670	Stafford.....	7,211	6,420
Culpeper.....	13,408	12,227	Matthews.....	7,501	6,200	Surry.....	7,391	5,655
Cumberland.....	10,540	8,142	Mecklenburg....	24,610	21,318	Sussex.....	10,062	7,885
Dinwiddie.....	32,870	30,702	Middlesex.....	6,252	4,951	Tazewell.....	12,861	10,791
Elizabeth City...	10,659	8,303	Montgomery....	16,693	12,556	Warren.....	7,399	5,716
Essex.....	11,032	9,927	Nansemond.....	15,903	11,576	Warwick.....	2,255	1,672
Fairfax.....	16,025	12,952	Nelson.....	16,536	13,893	Washington....	25,203	16,516
Fauquier.....	22,993	19,690	New Kent.....	5,515	4,381	Westmoreland..	8,946	7,682
Floyd.....	13,255	9,324	Norfolk.....	53,657	46,702	Wise.....	7,772	4,785
Fluvanna.....	10,802	9,875	Northampton...	9,152	8,046	Wythe.....	14,313	11,611
Franklin.....	25,084	18,264	Northumberland	7,929	6,863	York.....	7,349	7,193
The State.....							1,512,565	1,225,163

The one-hundredth anniversary of the battle of Yorktown and the surrender of the British forces under Lord Cornwallis, which virtually ended the Revolutionary struggle, was celebrated under national and State auspices in October. Under an act of June 7, 1880, a select joint committee of Congress was appointed to take charge of the arrangements on behalf of the national Government, and obtain suitable designs for a monument to be erected at the scene of the surrender at Yorktown. A commission of artists, consisting of R. M. Hunt and J. Q. A. Ward, of New York, and Henry Van Brunt, of Boston, was selected to design the monument, and their report was made and accepted in the early part of the year. The programme of the celebration covered several days. On the 13th of October the Moore House, the scene of the capitulation, was formally opened, the celebration was inaugurated with an address of the president of the local association, and there was a reunion of the descendants of officers and soldiers of the Revolution. On the 14th there were addresses by Hon. Carl Schurz and Professor Elie Charlier, of New York, in commemoration of the part taken by German and French allies in the Revolutionary struggle, followed by a grand ball in the pavilion. On the 15th there were a regatta and pyrotechnic displays and illuminations. The 16th, which was Sunday, was devoted to appropriate religious exercises. The 17th, the anniversary of the sending of a flag of truce by Cornwallis, was occupied with meetings of various civic associations and with public addresses. On the 18th there were an address of welcome to visitors and participants in the celebration by Governor Holliday; an opening address by Senator J. W. Johnston, chairman of the Congressional Committee; and the laying of the corner-stone of the monument with imposing Masonic ceremonies. This was followed on the 19th by the more distinctively literary features of the occasion, including a brief address by the President of the United States; an historical oration by Robert C. Winthrop, of Massachusetts; a poem by James Barron Hope, of Richmond; an ode written by Paul H. Hayne, of South Carolina; and appropriate musical exercises. On the 20th there was a grand military review; participated in by bodies of citizen soldiers from all parts of the Union, and this was followed by a naval review on the 21st. The week following was largely occupied with special displays and entertainments in the city of Richmond.

In response to national invitation there were present at the ceremonies of the 18th and 19th delegations of foreign guests, including representatives of the families of Marquis de la Fayette, Count Rochambeau, and Baron Steuben. These were under the charge of Secretary Blaine, and were assigned positions of special honor at the celebration exercises of the 15th. President Arthur's address on that occasion was as follows:

Upon this soil, one hundred years ago, our forefathers brought to a successful issue their heroic struggle for independence. Here and then was established and is, we trust, made secure upon this continent for ages yet to come, that principle of government which is the very fiber of our political system—the sovereignty of the people. The resentments which attended and for a time survived the clash of arms have long since ceased to animate our hearts. It is with no feeling of exultation over a defeated foe that today we summon up a remembrance of those events which have made this holy ground whereon we tread. Surely no such unworthy sentiment could find harbor in our hearts, so profoundly thrilled with the expression of sorrow and sympathy which our national bereavement has evolved from the people of England and their august sovereign. But it is altogether fitting that we should gather here to refresh our souls with the contemplation of unfaltering patriotism, the sturdy zeal of sublime faith which achieved the results we now commemorate. For so, if we learn aright the lesson of the hour, shall we be incited to transmit to the generations which shall follow, the precious legacy which our forefathers left to us—the love of liberty, protected by law. Of that historic scene which we here celebrate, no feature is more prominent and none more touching than the participation of our gallant allies from across the seas. It was their presence which gave fresh and vigorous impulse to the hopes of our countrymen when well-nigh disheartened by a long series of disasters. It was their noble and generous aid extended in the darkest period of the struggle which sped the coming of our triumph and made the capitulation at Yorktown possible a century ago. To their descendants and representatives, who are here present as honored guests of the nation, it is my glad duty to offer a cordial welcome. You have a right to share with us the associations which cluster about the day, when your fathers fought side by side with our fathers in the cause which was here crowned with success, and none of the memories awakened by this anniversary are more grateful to us all than the reflection that the national friendships here so closely cemented have outlasted the mutations of a changeful century. God grant, my countrymen, that they may ever remain unshaken, and that ever henceforth with ourselves and with all nations of the earth we may be at peace!

M. Max Outrey, the French Minister, spoke briefly in behalf of the French delegation, and Marquis de Rochambeau and Baron Steuben made brief addresses in their own languages. The oration of Mr. Winthrop was largely taken up with an historical review of the events and characters in honor of which the celebration was held. The President of the United States issued the following order as a feature of the day's proceedings:

In recognition of the friendly relations so long and so happily subsisting between Great Britain and the United States, in the trust and confidence of peace and good-will between the two countries for all centuries to come, and especially as a mark of the profound respect entertained by the American people for the illustrious sovereign and gracious lady who sits upon the British throne, it is hereby ordered that, at the close of these ceremonies in commemoration of the valor and success of our forefathers in their patriotic struggle for independence, the British flag shall be saluted by the forces of the Army and Navy of the United States now at Yorktown. The Secretary of War and the Secretary of the Navy will give orders accordingly. CHESTER A. ARTHUR.

By the President:

JAMES G. BLAINE, Secretary of State.

The monument, the corner-stone of which was laid on the 18th of October, and which is

to be raised at national expense, is expected to cost about \$200,000. From the architectural point of view it is composed of three principal parts: first, a base, which, with its stylobate and its pediments, is 37 feet high, and occupies an area 38 feet square upon the ground; second, a highly sculptured podium 25½ feet high and 13 feet in diameter, in the form of a drum, supporting then a column 60 feet high and at the base 7½ feet in diameter.



This shaft is composed of a succession of drums or courses of masonry, the joints being masked by four bands decorated with laurel-leaves, and justified by a decoration of stars symmetrically disposed upon them and breaking the outline of the column. The flutings of the shaft appear in the lowest and highest sections only. From the point of view of sentiment the monument is intended to convey in architectural language the idea set forth in the dedicatory inscription, that by the victory at Yorktown the independence of the United States of America was achieved or brought to final accomplishment. The four sides of the base contain—first, an inscription dedicating the monument as a memorial of the victory; second, an inscription presenting a succinct narrative of the siege, prepared in accordance with the original archives in the Department of State; third, the treaty of alliance with the King of France; and, fourth, the treaty of peace with the King of England. In the pediments over these four sides respectively are presented, carved in relief—first, emblems of nationality; second, emblems of war; third, emblems of the alliance; and, fourth, emblems of peace. The base is thus devoted to the historical incidents of the monumental composition, which are intended solely to appeal to the imagination. The immediate result of the historical events written upon the base was the happy establishment of a national union of thirteen youthful, free, and independent States. To celebrate the joyful union, the sculptor has represented upon the circular podium which arises from the base a solemn dance of thirteen typical female figures, hand in hand, encircling the drum, which bears upon a belt beneath their feet the words, “One Country, One Constitution, One Destiny.” The column which springs from this podium may be accepted as the symbol of the greatness and prosperity of the nation after a century of various experience—an expression of the strength and beauty of the Union. As the existence of the nation is a proof of the possibility of a government of the people, by the people, for the people, the column, thus adorned, culminates with Liberty herself, star-crowned, and welcoming the people of all nations to share equally with us the fruits of our peace and prosperity. The following is the text of the inscriptions:

North Side.—“Erected in pursuance of a resolution of Congress adopted October 29, 1781, and an act of Congress approved June 7, 1880, to commemorate the victory by which the Independence of the United States of America was achieved.”

South Side.—“Near this place, October 19, 1781, after a siege of nineteen days by 5,500 American and 7,000 French troops of the line, 3,500 American militia, and 36 French ships of war, Earl Cornwallis, commander of the British forces at Yorktown and Gloucester, surrendered with his army—7,251 officers and men, 840 scamen, 244 cannon, and 24 stand-

ards—to George Washington, Commander-in-Chief of the combined forces of America and France; to the Comte de Rochambeau, commanding the French troops; and to the Comte de Grasse, commanding the French fleet.”

West Side.—“The treaty concluded February 6, 1778, between the United States of America and Louis XVI, King of France, declares the essential and direct end of the present defensive alliance is to maintain effectually the liberty, sovereignty, and independence, absolute and unlimited, of the said United States as well in matters of government as of commerce.”

East Side.—“The provisional articles of peace concluded November 30, 1782, and the definitive treaty of peace concluded September 3, 1783, between the United States and George III, King of Great Britain and Ireland, declare: His Britannic Majesty acknowledges the said United States—viz., New Hampshire, Massachusetts Bay, Rhode Island and Providence Plantations, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia—to be free, sovereign, and independent States.”

W

WATER-MOTOR, THE. This motor is formed by incasing a water-wheel in a round cast-iron shell or frame—the ten-inch or sewing-machine size being about twelve inches in diameter, and two inches deep, open at the bottom. It can be attached to the wall by a bracket, or placed in the ordinary set bowl, and connecting directly with the faucet for the supply of water, and allowing the waste to pass off through the usual pipes. The water-wheel is made by constructing two sheet-metal disks struck up convex on their outsides, the inner or concave edges being soldered together, forming a strong and durable wheel or disk. On the periphery of this wheel is a series of cups or buckets about one inch apart—the diameter of the wheel outside of the buckets being about ten inches, and the thickness at

the center about two inches, tapering at the buckets to about one sixteenth of an inch. The wheel is hung by a spindle through its center, running up through bearings in the cast-iron shell. On the upper end of this spindle the driving-pulley is attached, which is about four inches in diameter. The water-wheel and the driving-pulley work horizontally and the spindle vertically. A sheet-metal pan, with an opening in the center for attaching the waste-pipe, is made to fit over the lower side of the cast-iron shell, for the purpose of catching the waste-water and delivering it to the waste-pipe. If the motor is used in a sink or on a shelf, it is set in a cast-iron ring with three legs (see illustration). On the inside of the shell there is attached a circular feed-pipe extending one half way around the shell. At



either end of this pipe are placed small nozzles, which form openings for streams of water about $\frac{1}{16}$ of an inch in diameter. The nozzles are so set that the little jet of water strikes the buckets in opposite directions, thereby reducing the friction on the driving-shaft to a minimum. At the middle way of this circular pipe is attached a T, one limb of which comes up through the shell at the top. To that are attached the pipe connections from the water-pipes or faucet. It is constructed by tightly fitting two pulleys, about the same size as the driving-pulley—one a groove-pulley, the other a rubber friction-pulley—on either end of a three-eighths inch shaft about two and one half

inches long, this shaft being set transversely and horizontally into an elbow-lever. This lever is hinged at the elbow into a bracket, the pulley end being vertical, and the lever end horizontal. This bracket is of triangular form, cast with ears to receive the pulley-lever at the hinge. This counter-shaft bracket is fastened to the table of the sewing-machine, in such a manner that the rubber friction-pulley rests against the rear edge of the fly-wheel of the sewing-machine; then, by pressing down and raising the lever, the sewing-machine is started and stopped, the pulleys constantly running by belt from the motor. There are five sizes of these motors—8, 10, 15, 24, and 36 inch—

adapted to sewing-machines, jig-saws, ventilating-fans, revolving show-cases; to dentists' use, to printing-presses, coffee mills and roasters, jewelers' and locksmiths' lathes, drug and paint mills, grindstones, emery-wheels, etc.

WEST VIRGINIA. The Legislature of this State opened its session of 1881 on January 12th, A. Edgar Summers having been unanimously elected permanent President of the Senate, and E. Willis Wilson Speaker of the House of Delegates.

Respecting the ante-war debt of Virginia, and the long-mooted question whether and in what proportion West Virginia can be made responsible for it, Governor Mathews, who was about to retire from office, informed the Legislature that he had shortly before received a communication "from 'The Western Virginia Committee' of London—a committee representing the holders of certificates issued under the Virginia funding acts of 1871, 1872, and 1879, known as 'Western Virginia' or 'deferred certificates'; the communication contained alternative proposals for a settlement between the States of Virginia and West Virginia and the holders of the said certificates." This communication he transmitted with his message to the Legislature "for such action as they might deem proper." The new Governor, Jacob B. Jackson, who was installed in office upon Governor Mathews's retiring from it, received, in May, 1881, a letter from the Secretary of the Western Virginia Committee of London, asking whether the propositions of the said committee which accompanied the communication previously addressed to Governor Mathews "were discussed by the Legislature, and, if so, with what result." Governor Jackson answered the letter on May 16th, "giving the information sought, together with his views on the merits of the committee's proposals, disclaiming, however, any authority to speak for the Legislature." No progress was, however, made in an adjustment.

The January session of 1881 was closed on March 15th, the two Houses having been then adjourned till the second Wednesday in January, 1882. Among the acts passed at this session, the following seem worthy of notice: "An act to amend and re-enact section 1 of chapter xlvii of the acts of 1872-'73." It strikes the word "white" out of the act embodied in the said chapter, which at the time of its passage was commonly known as "The Woods Jury Bill." "An act to establish a State Board of Health, and to regulate the practice of medicine and surgery." The board consists of six physicians, taken in equal numbers from the three congressional districts of the State, to be appointed and commissioned by the Governor for terms of office so arranged among the districts that two of the six members of the board shall be appointed every two years. The act went into force on June 11, 1881. "An act to amend and re-enact section 2 of

chapter xxiv of the Code of West Virginia, as amended and re-enacted by chapter xxii of the acts of 1872-'73." It reduces the State tax on foreign insurance companies from 3 to 2 per cent. "An act to provide a suitable block of stone to be placed in the Washington Monument by the State." "An act to revoke and repeal the certificate of incorporation, issued October 19, 1874, to 'the Livingston University of America.'" "An act making appropriations to pay the First Battalion of West Virginia Volunteers, for services rendered the State in assisting the civil officers to preserve peace and execute the laws in Fayette County, in January, 1880." Two acts were passed by this Legislature amending and re-enacting two of its own acts passed on a previous day at the same session.

The continuance of a prosperous course of affairs in West Virginia during the year 1881 is officially stated by Governor Jackson in his message to the Legislature at the beginning of 1882, as follows: "It affords me much pleasure to say that the general condition of the State is satisfactory; that we are gradually increasing in population and wealth; and that our progress in developing our material interests is very gratifying."

The State receipts and expenditures during the fiscal year ending September 30, 1881, were as follows: Receipts, including \$253,798.82 cash balance in the Treasury, October 1, 1880, \$928,929.36; disbursements, \$682,628.51; balance in the Treasury, October 1, 1881, \$246,300.85.

The condition, progress, and cost of public instruction in the common free schools of West Virginia for the year 1881, as compared with the corresponding items in 1880, were as follows:

Total value of school property for the year 1881	\$1,743,929 34
Increase over 1880.....	73,374 43
Whole number of school-houses for the year...	3,703
Increase over 1880.....	146
Whole number of schools during the year.....	3,915
Increase over 1880.....	104
Number of teachers employed during the year.....	4,327
Increase over 1880.....	103
Total number of children in the State between six and twenty-one years of age.....	213,441
Increase over 1880.....	3,328
Attended school during the year.....	141,132
Decrease.....	1,718
Total receipts from all sources for the teachers' and building fund, including balance on hand during the year.....	\$900,241 32
Increase over 1880.....	30,547 54
Total expenditures for all purposes during the year.....	775,032 17
Increased expenditures over 1880.....	67,479 26
Number of institutes held during the year.....	65
Number enrolled in county and district institutes.....	4,410
Average daily attendance.....	4,073

The aggregate number of students in the normal schools during the year 1881 was 538; of whom fifty-five graduated, receiving normal diplomas. It is officially stated that above five hundred students have graduated from these schools since their establishment; that nearly 90 per cent of that number are actually engaged in school-work, and perhaps twice as

many under-graduates. The receipts of the several normal schools, during the year ending September 30, 1881, amounted to \$8,390.58; from appropriations from the State, \$6,732; from other sources, \$1,658.58.

The University of West Virginia is officially stated to be "in a most healthy and prosperous condition." The students attending it for the year 1880-'81 numbered 162, an increase of thirty-one over the previous year, and a larger number than has been in attendance in any one year during the past decade.

The charitable and other public institutions of West Virginia are under praiseworthy management. In the State Hospital for the Insane, the construction of a northern wing, added to the main building, was completed early in July, 1881, and immediately fitted up for the reception of patients. One hundred and eight insane persons, scattered before throughout the State and confined in county jails, were soon brought in and lodged in their new quarters. The number of patients in the hospital on September 30, 1881, was 539. From May 16th to October 1st, fifteen patients were discharged as cured, six were discharged on bond, and thirty-five died. The average weekly cost to the State for each patient, during the year, including the amounts paid for officers' salaries, employés' wages, fuel, water, gas, and other expenses, was \$1.94½. The weekly rate

per capita for the current year the superintendent estimates at nearly \$2.50, owing to the high price of all the articles of consumption." The aggregate expenditures of the hospital, during the year ending September 30, 1881, amounted to \$55,960.55.

In the Institution for the Deaf and Dumb and the Blind, on October 1, 1881, there were 120 pupils enrolled for attendance during the session, and 26 applications on file for admission in the institution. The pupils in actual attendance numbered 108, of whom 79 are deaf-mutes, and 29 blind. At the last year's session their aggregate number was 89—deaf-mutes, 65; blind, 24. The cost of supporting this institution during the year ending September 30, 1881, was \$26,374.12, including \$502 paid for pupils' traveling expenses, and \$452.26 paid for insurance.

The number of convicts in the State Penitentiary on November 30, 1881, was 253, seventeen among them being Federal prisoners. During the six months preceding that date twenty-five of the State convicts were discharged, eleven pardoned, and six died; of the Federal prisoners, three were discharged, and one died; the total number of convicts detained in the prison on December 1, 1881, being 207.

The population of West Virginia by counties in 1880, as compared with 1870, was as follows:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Barbour.....	11,870	10,312	Jefferson.....	15,005	13,219	Pocahontas.....	5,591	4,069
Berkeley.....	17,380	14,903	Kanawha.....	32,466	22,349	Preston.....	19,091	14,555
Boone.....	5,324	4,553	Lewis.....	13,269	10,175	Putnam.....	11,375	7,794
Braxton.....	9,787	6,480	Lincoln.....	8,739	5,053	Raleigh.....	7,367	3,673
Brooke.....	6,013	5,464	Logan.....	7,329	5,124	Randolph.....	8,102	5,563
Cabell.....	13,744	6,423	McDowell.....	3,074	1,952	Ritchie.....	13,474	9,055
Calhoun.....	6,072	2,939	Marion.....	17,198	12,107	Roane.....	12,184	7,232
Clay.....	3,460	2,196	Marshall.....	13,840	14,941	Summers.....	9,083	.....
Doddridge.....	10,552	7,076	Mason.....	22,293	15,973	Taylor.....	11,455	9,867
Fayette.....	11,560	6,647	Mercer.....	7,467	7,064	Tucker.....	3,151	1,907
Gilmer.....	7,103	4,338	Mineral.....	8,630	6,332	Tyler.....	11,073	7,832
Grant.....	5,542	4,467	Monongalia.....	14,955	13,547	Upshur.....	10,249	8,023
Greenbrier.....	15,060	11,417	Monroe.....	11,501	11,124	Wayne.....	14,739	7,852
Hampshire.....	10,366	7,643	Morgan.....	5,777	4,315	Webster.....	3,207	1,730
Hancock.....	4,382	4,363	Nicholas.....	7,223	4,458	Wetzel.....	13,896	8,595
Hardy.....	6,794	5,518	Ohio.....	37,457	28,831	Wirt.....	7,104	4,504
Harrison.....	20,131	16,714	Pendleton.....	8,022	6,455	Wood.....	25,006	19,000
Jackson.....	16,312	10,300	Pleasants.....	6,256	3,012	Wyoming.....	4,322	3,171
The State.....							618,457	442,014

WISCONSIN. The State Legislature, consisting of 24 Republicans and 9 Democrats in the Senate, and 78 Republicans and 22 Democrats in the House, met in January, 1881, and adjourned on the 4th of April, after a session of eighty-three days. On the 25th of January Philletus Sawyer, Republican, was elected United States Senator by a vote of 98 to 29 for James G. Jenkins, Democrat, and 3 scattering. Senator Matthew H. Carpenter having died, Angus Cameron, Republican, was on the 10th of March chosen to fill the vacancy thus caused, by a vote of 97 to 27 for William F. Vilus, Democrat. The amount of direct appropriations made at this session was \$282,081.38. There were passed 334 bills, of which 133 originated in the Senate and 201 in the House.

Most of the laws passed are local in their character, relating to loans from the trust-funds, logging improvements, and city charters; Necnah was granted a new charter, and most of the cities in the State had theirs amended in many ways.

The "anti-treat" law amended the existing statute by adding the following words:

Any person who shall purchase, pay for, or, by any device whatsoever, procure any such liquors or drinks, for or in behalf of any person other than himself, to be drunk as a beverage by such other person, on the premises, or in any public place, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not less than five dollars nor more than ten dollars for each offense.

This law Judge Mallory, of the Milwaukee Municipal Court, has subsequently decided to be

inoperative, on the ground that the section of the Revised Statutes to which it had been added as an amendment had been repealed in 1880.

At the judicial election, on the first Tuesday of April, Chief-Justice Orsamus Cole, of the Supreme Court, and Associate Justice J. B. Cassoday were re-elected without material opposition.

The total State tax for 1882 is \$449,280.86, which is \$212,778.07 less than the levy made for 1881. The valuation of all property in the State, subject to taxation, as fixed by the State Board of Assessment, is \$447,804,968, an increase of a little more than \$2,000,000 over the valuation made one year ago for 1881. The rate of taxation is reduced from 1.4858 mills in 1880 to 1.0033 mills in 1881. The total of all taxes to be raised in the State is \$728,571.21, and includes the amounts due upon special loans to counties and school districts, and the special charges for the support of the three insane asylums and the Boys' Industrial School. This amount is about \$220,000 less than the total tax levy made in 1880.

The following is the number of inmates which the various institutions have admitted during the year, including those who were enrolled October 1, 1880:

State Insane Hospital.....	770
Northern Hospital for the Insane.....	660
Industrial School.....	525
Deaf and Dumb Asylum.....	179
Blind Institute.....	84
State Prison.....	439

The number remaining in these institutions on September 30, 1880, was:

State Insane Hospital.....	457
Northern Hospital for the Insane.....	512
Industrial School.....	372
Deaf and Dumb Asylum.....	168
Blind Institute.....	68
State Prison.....	305

The board estimates that the current expenses for the coming year for the State Hospital will be \$96,800, together with \$45,600 special appropriations, which will be called for; the Northern Hospital will require \$97,000, and \$20,000 special appropriations; for the Industrial School, \$104,710.44, and special appropriations of \$3,000; for the Deaf and Dumb Institute, \$34,600, and special appropriations of \$15,800; for the Blind Institute, \$17,850, and special appropriations, \$925; for the State Prison, \$45,800, and special appropriations of \$10,000.

During the calendar year 1881 there were built 300 miles of railroad-track within the State, against 238.22 miles laid during 1880. At the close of the year 1881 there were 2,435.88 miles of road in the State, of which 2,321.25 miles were standard gauge and 112.63 were narrow gauge.

The following summaries of the statistics of the public and private schools of the State represent the condition of these schools in the sixty-three counties and twenty-eight independent cities, and cover the school year ending August 31, 1881:

DESCRIPTION.	Counties.	Cities.	Totals.
Number of children over four and under twenty years of age.....	386,238	102,909	489,142
Number of such children who have attended public schools during the year.....	247,041	48,121	295,162
Number of school districts.....	5,613	32	5,645
Number of ungraded schools.....	5,664	87	5,701
Number of such schools which have adopted the grading system.....	651	30	681
Number of graded schools with two, three, and four or more departments.....	319	155	474
Number of high-schools.....	91	29	120
Number of teachers required to teach the public schools.....	6,253	812	7,065
Number of different persons employed as teachers in the public schools.....	9,205	835	10,040
Number of public school-houses.....	5,577	177	5,754
Number of school-houses erected during the year.....	289	6	245
Number of pupils the school-houses will accommodate.....	313,199	50,133	363,332
Number of school-rooms occupied for study or recitation.....	6,132	736	6,868
Number of school-houses built of brick or stone.....	756	112	868
Number of private schools.....	325	140	465
Number of teachers employed in the private schools.....	404	350	754
Number of children who have attended the private schools only.....	9,860	14,764	24,624

The total receipts for school purposes were as follows: Counties, \$2,118,349.37; cities, \$733,349.11; total, \$2,851,698.48. The expenditures were: Counties, \$1,741,340; cities, \$560,698.34; total, \$2,302,038.34.

According to the report of the Commissioner of Public Lands, the number of acres held by the State, September 30, 1881, was 1,372,620.76, against 1,455,202.89 on the 30th of September, 1880. The class of lands held is shown as follows:

School.....	197,362.75
University.....	8,093.14
Agricultural College.....	24,376.86
Normal School.....	552,754.90
Drainage.....	583,476.65
Marathon County.....	6,556.96
Total.....	1,372,620.76

During the year 1880-'81 there were sold 87,608.20 acres. There are now out \$107,027.99 in loans to individuals; \$152,344.38 to school districts; investments of trust funds, \$58,443. The productive capital of the several trust funds was, at the date of the report:

School.....	\$2,633,318.94
University.....	195,443.04
Agricultural College.....	236,574.01
Normal School.....	991,765.69
Drainage.....	8,109.22

Total, September 30, 1881.....	\$4,065,210.90
Total, September 30, 1880.....	4,205,392.66

The incomes of the several funds, during the fiscal year 1880-'81, were:

School.....	\$192,617.03
University, loans.....	22,401.26
University, tax levy.....	44,558.27
Agricultural College.....	15,710.23
Normal School.....	82,991.81
Drainage.....	695.54

Income for 1880-'81.....	\$358,873.69
Net income for 1879-'80.....	354,419.86

Increase in earnings.....	\$4,453.83
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The non-productive trust funds aggregate \$1,676,013.73, against \$1,531,556.06 in 1880. The sum total of the funds, productive and non-productive, is—counting school lands at \$1.10 per acre, University lands at \$2.50, Agricultural College lands at \$1.25, Normal School lands at \$1.25, and drainage lands at 90 cents—\$5,741,224.63.

In Wisconsin there are 7,649 Indians, divided as follows:

Oneidas.....	1,470
Monomonees.....	1,460
Stockbridges.....	155
Chippewas of Red Cliff.....	726
Chippewas of Bad River.....	736
Chippewas at Lac Court de Oreilles.....	1,083
Chippewas at Lac du Flambeau.....	512
Chippewas at Fond du Lac.....	404
Chippewas at Grand Portage.....	211
Chippewas at Boise Forte.....	797
Winnebagoes.....	930
Pottawatomies (Prairie Band).....	280

The Republican State Convention was held in Madison on the 21st of September. The following nominations were made: For Governor, Jeremiah M. Rusk; for Lieutenant-Governor, Samuel S. Fifield; for Secretary of State, Ernst G. Timme; for State Treasurer, Edward O. McFetridge; for Attorney-General, Leander F. Frisby; for State Superintendent, Robert Graham; for Railroad Commissioner, Nils P. Haugen; for Insurance Commissioner, Philip L. Spooner, Jr. The more important resolutions of the platform were as follows:

Resolved, That to President Chester A. Arthur, called upon as he is, under the most delicate and trying circumstances, to assume the responsible duties of Chief Magistrate of our country, we express our cordial good-will and earnest desire for the success of his administration. With confidence in his judgment, integrity, and patriotism, we look to him for a pure, honest, and efficient discharge of official duty, and a wise and dignified conduct of the national government.

Resolved, That we reaffirm our belief of and attachment to all the great principles upon which the Republican party was founded, and for which it has during its past history contended. We reaffirm the principles laid down in the Chicago platform of 1880. We declare that the Constitution of the United States is the supreme law, and not a contract between the States. We reaffirm the principles that the duties levied for the purpose of revenue should so discriminate as to protect American labor; that further grants of the public domain should not be made to any railway or other corporation; that polygamy must die; that everywhere the protection accorded to a citizen of American birth must be secured to the citizens of American adoption; that we esteem it the duty of Congress to develop our water-courses and harbors, but insist that further subsidies to private persons or corporations shall cease; that our gratitude to the men who preserved the integrity of the republic on the day of battle is undiminished by lapse of time; that the financial system under which the present high state of prosperity enjoyed by the country has been reached, must not be disturbed.

Resolved, That in the continued growth of the country in population, wealth, and enterprise, we recognize the necessity for ever increasing changes and improvements in legislation, both State and national. We would mention, as among the subjects demanding immediate and earnest legislative attention, those of corporate and interstate commerce; a better regulation of our national civil-service system; definite rules for determining the result of presiden-

tial elections, and specific laws defining the constitutional term "inability of the President."

Resolved, That our present civil-service system, planned in the infancy of the republic, is poorly adapted to the needs of a nation of over fifty millions of people, and such legal regulations as will adapt it to the wants of the increased population and general growth of the country, and as will comport with the dignity of the Government and best protect the rights of both public officers and the people, are imperatively demanded by the highest interests of all classes and parties.

The Democratic State Convention met in Milwaukee on the 28th of September, and nominated the following ticket: For Governor, N. D. Fratt; for Lieutenant-Governor, W. A. Anderson; for Secretary of State, Michael Johnson; for State Treasurer, William H. Jacobs; for Attorney-General, M. J. Briggs; for State Superintendent, Robert Graham (Republican, indorsed); for Railroad Commissioner, Ambrose Hoffman; for Commissioner of Insurance, Rudolf Kemper.

In their platform they denounced "the combination of capital and corporate influence for the purpose of dictating the election of Senators and Representatives in Congress and members of the State Legislatures, and for the purpose of fostering monopoly and controlling legislation."

They denounced the use of money in politics, and cordially pledged their "aid to insure both moral and legal condemnation of candidates to public offices by means of direct or indirect bribery, or the equally reprehensible barter of personal or official influence."

The convention avowed itself opposed to temperance legislation "as an encroachment upon personal liberty, and an invasion of the inherent rights of man."

The Prohibitionists nominated Theodore D. Kanouse for Governor; Harvey S. Clapp for Lieutenant-Governor; Edmund Bartlett for Secretary of State; ratified Robert Graham, the regular Republican nominee, for State Superintendent; John Nader for Railroad Commissioner; Thomas Bracken for Insurance Commissioner; John Sutton for Treasurer; and E. G. Comstock for Attorney-General.

Their convention met in Madison on the 29th of September, and was called because, in the language of the committee, "the Republican Convention, after full consideration, deliberately refused to grant the request of the temperance people 'to submit all great questions of public policy, such as liquor prohibition, and any other questions upon which the people are divided, and for the submission of which a respectable number of citizens may petition the Legislature, to the popular vote, in order that such questions may be separated from all party strife, and a verdict of the people be rendered upon their merits in a non-partisan manner.'"

At the election in November the Republican ticket was successful. The following is the vote for Governor:

Rusk, Republican.....	81,754
Fratt, Democrat.....	69,797
Kanouse, Temperance.....	13,225
Allis, Greenbacker.....	7,002
Scattering.....	78
Total.....	171,856
Rusk's plurality.....	11,957

The Legislature chosen at this election is constituted as follows: Senate, 23 Republicans and 10 Democrats; House, 64 Republicans, 34 Democrats, and 2 Independents.

The following amendments to Article IV of the Constitution, submitted at this election, were ratified by a vote of 53,532 against 13,936:

SECTION 4. The members of the Assembly shall be chosen biennially, by single districts, on the Tuesday succeeding the first Monday of November, after the adoption of this amendment, by the qualified electors of the several districts; such districts to be bounded by county, precinct, town, or ward lines, to consist of contiguous territory, and be in as compact form as practicable.

SEC. 5. The Senators shall be elected by single districts of convenient contiguous territory, at the same time and in the same manner as members of the Assembly are required to be chosen, and no Assembly district shall be divided in the formation of a Senate district. The Senate districts shall be numbered in the regular series, and the Senators shall be chosen alternately from the odd and even numbered districts. The Senators elected, or holding over at the time of the adoption of this amendment, shall continue in

office till their successors are duly elected and qualified. And, after the adoption of this amendment, all Senators shall be chosen for the term of four years.

SEC. 11. The Legislature shall meet at the seat of government, at such time as shall be provided by law, once in two years and no oftener, unless convened by the Governor in special session; and when so convened, no business shall be transacted except such as shall be necessary to accomplish the special purposes for which it was convened.

SEC. 21. Each member of the Legislature shall receive for his services for and during a regular session the sum of five hundred dollars, and ten cents for every mile he shall travel in going to and returning from the place of meeting of the Legislature on the most usual route. In case of an extra session of the Legislature, no additional compensation shall be allowed to any member thereof, either directly or indirectly, except for mileage, to be computed at the same rate as for a regular session. No stationery, newspapers, postage, or other perquisites, except the salary and mileage above provided, shall be received from the State by any member of the Legislature for his services, or in any other manner as such member.

The cereal production of the State, as reported by the census of 1880, is as follows: Barley, 5,043,118 bushels; buckwheat, 299,-107; corn, 34,230,579; oats, 32,905,320; rye, 2,298,513; wheat, 24,884,689.

The following is the population of Wisconsin by counties, as returned by the census of 1880, and as compared with the returns for 1870:

COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.	COUNTIES.	1880.	1870.
Adams.....	6,741	6,601	Green Lake.....	14,483	13,195	Pierce.....	17,744	9,958
Ashland.....	1,559	221	Iowa.....	23,628	24,544	Polk.....	10,018	3,422
Barron.....	7,024	538	Jackson.....	13,255	7,687	Portage.....	17,731	10,634
Bayfield.....	564	244	Jefferson.....	32,156	34,040	Price ‡.....	785	.....
Brown.....	34,078	25,168	Juneau.....	15,582	12,372	Racine.....	30,922	26,740
Buffalo.....	15,528	11,123	Kenosha.....	13,550	13,147	Richland.....	18,174	15,731
Burnett.....	3,140	706	Kewaunee.....	15,807	10,128	Rock.....	38,823	39,030
Calumet.....	16,632	12,335	La Crosse.....	27,073	20,297	St. Croix.....	18,956	11,035
Chippewa.....	15,491	8,311	Lafayette.....	21,279	22,659	Sauk.....	28,729	23,860
Clark.....	10,715	3,450	Langlade*.....	685	.....	Shawano.....	10,371	3,166
Columbia.....	28,065	28,802	Lincoln †.....	2,011	.....	Sheboygan.....	34,206	31,749
Crawford.....	15,644	13,075	Manitowoc.....	37,505	33,364	Taylor §.....	2,311	.....
Dane.....	53,233	53,096	Marathon.....	17,121	5,835	Trempealeau.....	17,189	10,782
Dodge.....	45,931	47,035	Marquette.....	8,929	.....	Vernon.....	23,235	13,645
Door.....	11,645	4,919	Marquette.....	8,908	8,056	Walworth.....	26,249	25,972
Douglas.....	655	1,122	Milwaukee.....	138,537	89,930	Washington.....	23,442	23,919
Dunn.....	16,817	9,488	Monroe.....	21,607	16,550	Waukesha.....	28,957	28,274
Eau Claire.....	19,993	10,769	Oconto.....	9,848	8,321	Waupaca.....	20,955	15,539
Fond-du-Lac.....	46,859	46,273	Outagamie.....	28,716	18,430	Waushara.....	12,687	11,279
Grant.....	37,852	37,979	Ozaukee.....	15,461	15,564	Winnebago.....	42,740	37,279
Green.....	21,729	23,611	Pepin.....	6,226	4,659	Wood.....	8,981	3,912
The State.....							1,315,497	1,054,670

* Formed (as new) from part of Oconto in 1879; in 1880 name changed to Langlade; unorganized and attached to Shawano for judicial purposes.
† Organized in 1874 from part of Marathon; in 1875, part to

Taylor; in 1879, part to Price.
‡ In 1879, from parts of Chippewa and Lincoln.
§ Formed in 1875 from parts of Clark, Chippewa, Lincoln, and Marathon.

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